CREDIT RATINGS CONSERVATISM AND EARNINGS MANAGEMENT

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DEDICATION

I dedicate this dissertation to my family. A very special dedication goes to my parents, Jongoh Park and Jeongkeun Oh, who always encourage me to pursue this study and to continue my education in the fields of economics, management and administrative science (MAS), finance and accounting. My parents always give me unconditional love and support. I would like to dedicate this work to my first younger sister Kyeongok Park, brother-in-law Kitae Hong, and two nephews Hayoon Hong and Haram Hong, for their unwavering love and support. I would also like to dedicate this work to my second younger sister Kyungja Park, brother-in-law Wooseong Jin, and two nephews Jonghwa Jin and Jonghyun Jin, for their constant love and support.

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ABSTRACT

I examine whether ratings conservatism influences a firm's earnings management. First, total earnings management, calculated as the sum of real and accrual-based earnings management measures, increases in response to ratings conservatism. Ratings conservatism leads to a substitution between real and accrual-based earnings management, indicating that the increase in real earnings management is greater than the decrease in accrual-based earnings management. Next, the negative relation between ratings conservatism and accrual-based earnings management is more pronounced for firms with low credit quality than for those with high credit quality. However, the positive relation between ratings conservatism and real earnings management does not apply to both investment- and speculative-grade firms. The results are robust to sample selection bias, alternative measures of accrual-based earnings management, alternative industry classifications, alternative cut-off years employed when measuring ratings conservatism, the effect of external events, omitted variable bias, and different specifications for ratings models. In addition, there is no evidence of earnings smoothing and asymmetric timeliness loss recognition relating to ratings conservatism. Overall, this study finds that ratings conservatism affects a firm's incentive to manage its reported earnings. This study also represents the first step towards understanding how ratings conservatism influences the earnings management behaviors of managers.

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CHAPTER 1

INTRODUCTION

Over the past three decades, credit ratings of U.S. firms, on average, have declined. Prior research documents that the downward trend in credit ratings is attributed to more stringent credit standards by credit ratings agencies (Blume et al., 1998; Alp, 2013; Baghai et al., 2014; Afik et al., 2016).[1] The term "ratings conservatism" refers to the tendency for credit ratings agencies to tighten their credit standards over time. Several studies focus on a firm's earnings management in relation to credit ratings and to credit ratings changes (Ali and Zhang, 2008; Alissa et al., 2013; Jung et al., 2013; Kim et al., 2013; Shen and Huang, 2013). However, the relation between ratings conservatism and earnings management has yet to be investigated. My study begins with the following research questions: Does ratings conservatism affect a firm's earnings management behavior? If so, does ratings conservatism influence the choice between real and accrual-based earnings management? In addition to real and accrual-based earnings management, does ratings conservatism affect other types of earnings management, such as earnings smoothing and asymmetric timeliness loss recognition? To answer these questions, I examine how ratings conservatism influences a firm's incentive to manage its reported earnings through earnings

[1] An exception is Jorion et al. (2009), who argue that the downward trend in corporate credit ratings is due to the decline in accounting quality over time. On the other hand, my study is based on the argument by previous studies that the decline in credit ratings is primarily caused by the tightening rating standards applied by ratings agencies (Blume et al., 1998; Alp, 2013; Baghai et al., 2014; Afik et al., 2016). I focus on the impact of stringent rating standards over time ("ratings conservatism") on a firm's earnings management. I do not, however, explore why bond ratings of U.S. firms have declined over time. To do this, I first replicate Baghai et al.'s (2014) findings. I then extend the sample period to 2014 and calculate ratings conservatism proxies proposed by Baghai et al. (2014). Finally, I investigate whether ratings conservatism influences a firm's incentive to manage earnings via earnings management.

management.

Issues concerning a firm's earnings management have attracted much interest from academics and practitioners over several decades.[2] Prior literature investigates potential motives for a firm's earnings management from different perspectives, such as management compensation contracts (Healy, 1985; Dechow and Sloan, 1991; Gaver et al., 1995; Hothausen et al., 1995; Balsam, 1998; Guidry et al., 1999), lending contracts (Watts and Zimmerman, 1986; DeFond and Jiambalvo, 1994), regulatory motives (Moyer, 1990; Collins et al., 1995), political costs (Watts and Zimmerman, 1986; Jones, 1991), capital market motives (Teoh et al., 1998a, 1998b), and so on. In addition to these motives, three recent studies (Ali and Zhang, 2008; Alissa et al., 2013; Kim et al., 2013) provide an additional incentive for managers to manage their firms' earnings in the context of credit ratings and credit ratings changes. Managers are more likely to behave opportunistically. Specifically, earnings management behaviors in response to credit ratings and credit ratings changes can affect a firm's cost of capital and further its stock price. Therefore, credit ratings are one of the important characteristics that explain a firm's earnings management behaviors.

Prior research also shows that credit ratings agencies have become more conservative with their credit standards and provides the testable implications of ratings conservatism for researchers and managers (Blume et al., 1998; Alp, 2013; Baghai et al., 2014; Afik et al., 2016). One may take into account ratings conservatism in examining a potential motive for a firm's earnings

[2] Schipper (1989) states earnings management as "a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process)" (p. 92). In a similar way, as described by Healy and Wahlen (1999), "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers" (p. 368).

management in the framework of credit ratings. This is indeed what I explore in this paper. Corporate credit ratings are determined by not only a firm's financial conditions and operating performance at a current point in time, but also by ratings agencies' evaluation criteria or standards. If the tightening of credit standards by ratings agencies remains persistent over time, such stringent standards influence the opportunistic earnings management behaviors of managers.

I propose two hypotheses to examine the relation between ratings conservatism and earnings management. The first hypothesis is: Credit ratings conservatism leads to a substitution between real and accrual-based earnings management. My hypothesis of the substitution between real and accrual-based earnings management is based on theoretical, empirical, and anecdotal evidence.[3] Managers use real and accrual-based earnings management either individually or jointly to achieve one or more objectives (Kothari et al., 2016). I infer that firms pursue alternate means to manage their reported earnings in response to ratings conservatism. Mangers have incentives to manage their firms' reported earnings via real earnings management to meet earnings targets (Roychowdhury, 2006). Managers in firms more affected by stringent rating standards engage in real earnings management to meet or beat earnings benchmarks in an attempt to enhance their credibility with capital markets and to achieve desired credit ratings. For example, survey evidence provided by Graham et al. (2005) shows that the chief financial officers (CFOs) responded that their firms try to meet earnings benchmarks in an effort to "achieve or preserve a desired credit rating." (p. 25). Firms affected by ratings conservatism engage in more real earnings management and gain

[3] Blume et al. (1998), Graham and Harvey (2001), Bartov et al. (2002), Graham et al. (2005), Ashbaugh-Skaife et al. (2006), Kisgen (2006), Cohen et al. (2008), Jorion et al. (2009), Cohen and Zarowin (2010), Gunny (2010), Caton et al. (2011), Zang (2012), Shen and Huang (2013), Baghai et al. (2014), Ge and Kim (2014), and Standard & Poor's (2008, 2015) contribute to the study of this topic. Please see subsection 2.3 for more details.

better credit ratings by meeting earnings benchmarks, which consequently access debt markets at a more favorable rate.[4] Thus, firms that suffer more from ratings conservatism engage in more real earnings management. On the other hand, I predict that ratings conservatism restrains managers from engaging in accrual-based earnings management because high accounting accruals are observable to sophisticated credit rating agencies as well as regulators, auditors and even institutional investors (Cohen et al., 2008; Dechow et al., 2010; Zang, 2012; Chan et al., 2015). Firms with high accounting accruals are subject to closer scrutiny from regulators (the SEC), auditors, and even credit rating agencies. High accounting accruals are more likely to be related to accrual-based earnings management, which results in a decrease in financial reporting quality and thus an increase in uncertainty among capital market participants, including credit rating agencies (Akins, 2017). The high accounting accruals can impede credit ratings agencies from timely and accurately assigning credit ratings to firms and have a negative influence on a firm's future credit ratings (Ashbaugh-Skaife et al., 2006; Jorion et al., 2009; Caton et al., 2011; Bae et al., 2013; Shen and Huang, 2013; Standard & Poor's, 2015).[5] Accordingly, high accounting accruals are negatively associated with the assignment of credit ratings by ratings agencies, which likely result in tighter rating standards. Thus, firms more affected by ratings conservatism have incentives to engage in less accrual-based earnings management. Collectively, as ratings conservatism increases, real

[4] See, for example, Bartov et al. (2002) and Gunny (2010).

[5] Based on these prior studies, I infer that credit rating agencies are able to (fully) comprehend a firm's accounting accruals process and penalize earnings management behaviors of managers. For example, Standard & Poor's (2015) states that accounting quality is considered to be a factor in the process of assigning bond ratings.

earnings management increases while accrual-based earnings management decreases.[6] Another possible explanation for the substitution between real and accrual-based earnings management in response to ratings conservatism is as follows: Ratings conservatism implies that ratings agencies apply more stringent requirements (or criteria) on qualitative information (accounting quality) as well as on quantitative information (past audited financial statements) in their assignment of credit ratings. Ratings conservatism also implies that, given that financial conditions or operating performance are comparable with the previous year, firms affected more by ratings conservatism receive relatively worse ratings than before. Accordingly, due to their ratings disadvantages, firms experience difficulty in obtaining debt financing, which could lead to lower levels of debt.[7] Consequently, firms would deviate from their target debt (or target leverage) ratios. To make up for the deviation, the firms attempt to revert back to their target debt ratios. These firms have a desire to improve their credit ratings because improved ratings can signal a lower likelihood of credit risk (or default risk) to market participants, including investors and creditors, which likely results in lower debt financing costs. Therefore, in response to ratings conservatism, managers have incentives to improve their accounting quality (or earnings quality) by engaging in less accrual-based earnings management in an attempt to achieve desirable or better credit ratings. In other words, these firms engage in less accrual-based earnings management to improve accounting quality for a better credit rating to access debt markets at a favorable rate. On the other hand, ratings conservatism can lead managers to resort real earnings management, which possibly benefits from an increase in earnings

[6] Of course, it is possible that firms use the combination of real and accrual-based earnings management.

[7] If capital markets completely take into account the effect of ratings conservatism, firms would not need to consider it in their debt financing decisions.

and thus positively affects debt ratings in spite of its costs.[8] In a circumstance that rating agencies have become more conservative in their assignment of credit ratings, the costs of real earnings management (e.g., lower subsequent operating performance (Gunny, 2005)) are be less than its benefits (e.g., the benefits from beating or meeting earnings targets/benchmarks (Graham et al., 2005; Gunny, 2010; Zang, 2012)) as discussed earlier.[9] Taken together, in response to ratings conservatism, mangers prefer real earnings management to accrual-based earnings management. The second hypothesis is: The positive (negative) relation between ratings conservatism and real earnings management (accrual-based earnings management) is more pronounced for firms with low credit quality than for those with high credit quality. Given that credit ratings agencies consider accounting quality as an important item for their assignment of credit ratings, I infer that to obtain better credit ratings and thus access debt markets at a more favorable rate, firms with low credit quality, i.e., speculative-grade firms, have more (less) incentive to manage their reported earnings via real earnings management (accrual-based earnings management) than those with high credit quality, i.e., investment-grade firms.

Using a sample of publicly traded and rated U.S. firms between 1985 and 2014, I investigate the relation between ratings conservatism and earnings management. I use the absolute value of discretionary accruals (*ABS_DA*) as well as positive and negative discretionary accruals as a proxy for a firm's accrual-based earnings management. To calculate discretionary accruals, I follow Dechow et al. (1995) and use the cross-sectional

[8] See, for example, Ewert and Wagenhofer (2005).

[9] Graham et al. (2005) provide survey evidence on why chief financial officers (CFOs) have a desire to meet or beat earnings benchmarks. Please see Graham et al. (2005, p. 21-43) for more details.

modified Jones (1991) model. Next, following Roychowdhury (2006), I estimate the abnormal levels of operating cash flows, production costs and discretionary expenditures to capture a firm's real earnings management. To capture total real earnings management, I follow Cohen et al. (2008), Cohen and Zarowin (2010) and Zang (2012), and generate two alternative measures, *REM1* (calculated as the sum of the abnormal level of discretionary expenses multiplied by negative one and the abnormal level of production costs) and *REM2* (computed as the sum of the abnormal level of discretionary expenses and the abnormal level of operating cash flows, both multiplied by negative one). Furthermore, to examine the effect of ratings conservatism on overall earnings management, I follow Chan et al. (2015) and generate two measures, *TEM1* (calculated as the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM1*)) and *TEM2* (computed as the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM2*)).[10] On the other hand, I employ two measures of credit ratings conservatism developed by Baghai et al. (2014). The procedures for measuring ratings conservatism are similar to those in Baghai et al. (2014). Specifically, in the first step, I estimate ratings models between 1985 and 1996 to predict ratings between 1997 and 2014. In the second step, I obtain two ratings conservatism proxies, measured as the difference between a firm's actual and predicted ratings.

Consistent with the first hypothesis, I find that ratings conservatism is negatively

[10] Furthermore, for additional analyses, I use earnings smoothing measures and asymmetric timely loss recognition measures. See subsections 6.1 and 6.2 for more details.

related to accrual-based earnings management, measured through the absolute value of discretionary accruals and positive discretionary actuals. These findings suggest that firms affected more by ratings conservatism engage in less accrual-based earnings management and income-increasing earnings management.[11] Furthermore, with respect to negative discretionary accruals, I find a positive relation between ratings conservatism and accrual-based earnings management. This finding indicates that firms affected more by ratings conservatism engage in less income-decreasing earnings management. Taken together, my evidence suggests that accrual-based earnings management decreases with ratings conservatism. In contrast, I find that firms affected more by ratings conservatism engage in more real earnings management, measured as the abnormal levels of production costs, discretionary expenses, and cash flow from operations as well as aggregate measures of real earnings management, *REM1* and *REM2*. These findings support my first hypothesis. To summarize, ratings conservatism leads to a substitution between real and accrual-based earnings management. Furthermore, given the two opposite effects, I find that ratings conservatism increases total earnings management. This finding implies that the increase in real earnings management is greater than the decrease in accrual-based earnings management. Next, consistent with my second hypothesis, I find that the negative relation between ratings conservatism and accrual-based earnings management (measured as the absolute value of discretionary accruals) is stronger for speculative-grade firms than for investment-grade firms. However, I find that the positive relation between ratings conservatism and real earnings

[11] When using the ratings conservatism measure based on firm fixed effects, I find no evidence of income-increasing earnings management.

management does not apply to both investment- and speculative-grade firms. This finding is inconsistent with my hypothesis that the positive relation is more pronounced for speculative-grade firms than for speculative-grade firms. With respect to a series of robustness checks, my main results are robust to sample selection bias, alternative measures of accrual-based earnings management, alternative industry classifications, alternative cut-off years employed when measuring ratings conservatism, the effect of external events, omitted variable bias, and different specifications for ratings models. Finally, regarding additional analyses, I find no evidence that firms more affected by ratings conservatism tend to engage in more or less earnings smoothing. I also find inconsistent results regarding the relation between ratings conservatism and each measure of asymmetric timeliness loss recognition.

My study provides the following several contributions: First, this study contributes to the literature on ratings conservatism by providing evidence that the tightening of rating standards affects a firm's earnings management. Until now, there is little literature on the downward trend in corporate credit ratings of U.S. firms over time (Blume et al., 1998; Jorion et al., 2009; Alp, 2013; Baghai et al., 2014; Afik et al., 2016). These studies document that rating standards have become more stringent over the past decades, except for Jorion et al. (2009). Specifically, Blume et al. (1998) argue that corporate credit ratings have become more stringent for the period of 1978 to 1995. Their argument is supported by subsequent studies, including Alp (2013), Baghai et al. (2014), and Afik et al. (2016). In contrast, Jorion et al. (2009) claim that the tightening of rating standards only applies to investment-grade firms, suggesting that the downward trend in credit ratings is mainly due to the change in accounting quality over time, not stringent rating standards by ratings agencies .

Unlike Jorion et al. (2009) and Alp (2013), Baghai et al. (2014) develop a measure of ratings conservatism and further examine whether ratings conservatism affects corporate behaviors, such as a firm's capital structure decisions, cash holdings, and debt spreads. I further extend prior studies, especially Baghai et al.'s (2014), by considering whether ratings conservatism can affect a firm's earnings management. This study provides evidence that firms take on different earnings management strategies in response to ratings conservatism.

Second, this study extends prior literature on the relation between credit ratings (changes) and earnings management by examining the effect of ratings conservatism on a firm's earnings management. Among prior studies (Ali and Zhang, 2008; Alissa et al., 2013; Kim et al., 2013), Alissa et al. (2013) examine how a manager's discretion of earnings management affects credit ratings. They document that when a firm's current ratings are below (above) expected ratings, the firm has an incentive to manage its reported earnings upward (downward). My study is, however, different from theirs in several ways. First, unlike Alissa et al., I examine how ratings conservatism affects earnings management using a novel measure of ratings conservatism developed by Baghai et al. (2014). Second, my study takes into account the behaviors of credit ratings agencies using a measure of ratings conservatism. This study provides evidence that ratings conservatism can be one of the potential characteristics that affect a firm's earnings management. Although there are prior studies on earnings management from the perspectives of credit ratings (change), there is no evidence of whether the tightening of rating standards by credit ratings agencies influences a firm's earnings management. With my study, I hope to fill this gap by providing the impact of ratings conservatism on earnings management. My study is different from prior literature on the relation between credit ratings (changes) and earnings management in that I take into account both the opportunistic behaviors of managers and the behavioral changes of credit ratings agencies.

Third, this study complements recent studies on the relation between real and accrual-based earnings management by providing evidence that ratings conservatism can be one of the potential factors in explaining the alternation of a firm's earnings management. I find evidence of a substitution between real and accrual-based earnings management in my study. Graham et al. (2005) and Roychowdhury (2006) document a firm's preference of real earnings management over accrual-based earnings management. On the other hand, some studies show that firms alternate their decision to use each earnings management strategies (Cohen et al., 2008; Cohen and Zarowin, 2010; Badertscher, 2011; Zang, 2012; Chan et al., 2015).[12]

Finally, this study provides meaningful implications for corporate decision makers, researchers, and regulators. For corporate decision makers, ratings conservatism by rating agencies is an important issue because it affects or distorts a firm's debt financing decisions. For researchers, ratings conservatism is an interesting topic and worthy of investigation because it broadens their perspectives and can be applied to other areas. For example, my study represents the first step towards understanding the role of ratings conservatism in a firm's earnings management. For regulators, this study provides evidence that ratings conservatism can positively influence a firm's accounting quality (or earnings quality), represented as accrual-based earnings management. This

[12] For example, Cohen et al. (2008) document a trade-off between real and accrual-based earnings management. They show that accrual-based earnings management declines while real earnings management increases after the passage of SOX. In a recent study, Chan et al. (2015) argue that the passage of clawback provisions leads a substitution between accrual-based and real earnings management. Consistent with the argument, they find that after the passage of clawback provisions, accrual-based earnings management decreases, but real earnings management increases.

study also implies that earnings management behaviors of managers are influenced by the extent of ratings conservatism.

The remainder of this study is organized as follows: CHAPTER 2 reviews relevant prior literature and develops the hypotheses, CHAPTER 3 discusses research methodologies, CHAPTER 4 describes the sample selection procedures and data, CHAPTER 5 presents the results, CHAPTER 6 discusses potential sample selection bias, CHAPTER 7 provides further analyses, CHAPTER 8 presents robustness checks, CHAPTER 9 concludes the paper by summarizing the results, and finally CHAPTER 10 discusses limitations and future research.

CHAPTER 2

RELATED LITERATURE AND HYPOTHESES DEVELOPMENT

2.1 Credit Ratings and Earnings Management

Empirical findings presented by Ashbaugh-Skaife et al. (2006) imply that there is a relation between credit ratings and earnings management. They consider the quality of working capital accruals and the timeliness of earnings as proxies for a firm's financial transparency. Ashbaugh-Skaife et al. find that credit ratings are positively related to accrual quality and earnings timeliness. Their results suggest that there is a negative link between credit ratings and earnings management. This is because a firm's earnings management leads to lower accrual quality.

In subsequent years, a stream of literature examines the relation between credit ratings (changes) and earnings management (Ali and Zhang, 2008; Alissa et al., 2013; Kim et al., 2013; Jung et al., 2013; Shen and Huang, 2013). Using ratings data from Standard & Poor's (S&P) between 1987 and 2005, Ali and Zhang (2008) study whether upgrades (or downgrades) in broad ratings categories are related to a firm's earnings management. According to Kisgen's (2006) article, they define a broad rating category as the level of ratings without the addition of plus, middle, and minus specifications. For example, a broad rating category A includes A+, A, and A−. They find that firms located in the borders of a broad rating category (A+ and A−) are more likely to inflate their reported earnings and have less conservative accounting compared to their counterparts.

In another study, Alissa et al. (2013) examine whether firms manage their reported earnings through real and accrual-based earnings management to meet or return to their expected credit ratings. Based on the literature concerning target leverage, Alissa et al. construct a rating model.

They then run an ordered probit regression to estimate expected credit ratings, and measure the deviation from current credit ratings (i.e., a difference between a firm's actual and expected credit ratings). Alissa et al. find evidence that when a firm's current ratings are below expected ratings, the firms are more likely to engage in income-increasing earnings management. They also show that when a firm's current ratings are above expected ratings, the firms are more likely to be involved in income-decreasing earnings management. Furthermore, Alissa et al. argue that when there are deviations from a firm's expected ratings, managers attempt to revert back to their expected credit ratings. To test this argument, Alissa et al. further investigate whether income-increasing (-decreasing) earnings management by firms whose current ratings are below (above) expectations can influence future rating changes. Consistent with their hypothesis, Alissa et al. document that income-increasing (-decreasing) earnings management is related to positive (negative) changes in future credit ratings. Their findings imply that credit ratings agencies do not perceive a firm's earnings management, which likely leads to improper assignment of credit ratings to debt issuers.

Furthermore, based on the target ratings hypothesis (Hovakimian et al., 2009), Kim et al. (2013) study whether a firm's real or accrual-based earnings management influences changes in future credit ratings. Using a logistic regression, they find that there is a positive (negative) relation between real earnings management (accrual-based earnings management) and credit rating upgrades. These findings suggest that managers are more likely to use real earnings management than accrual-based earnings management to influence upcoming changes in credit ratings. Their study implies that changes in credit ratings convey information on a firm's financial conditions to market participants (Millon and Thakor, 1985; Kliger and Sarig, 2000; Kisgen, 2006). When a firm's credit ratings are anticipated to downgrade (upgrade) relative to the previous year, investors reconsider whether to continue to invest in the firms (vice versa). In addition, creditors demand a higher return on their investments.

Two recent studies explore the potential relation between credit ratings and earnings smoothing. Jung et al. (2013) examine whether firms with plus or minus notch ratings (AA+ or AA−) have an incentive to smooth their earnings through earnings management using three subsamples: total, investment-grade, and speculative-grade. Jung et al. point out that firms have a desire to improve or keep their credit ratings because ratings can affect their debt financing and stock and bond valuations. They find that firms with plus notch ratings engage in more earnings smoothing. Jung et al. further show that the likelihood of subsequent ratings upgrades increases with earnings smoothing. Their findings indicate that a firm's earnings smoothing is an effective mechanism to improve its credit ratings. On the other hand, using cross-country bank data from 85 countries, Shen and Huang (2013) examine the impact of earnings management on the cost of debt via credit ratings changes. To do this, they use the following two types of earnings management: earnings smoothing and discretionary accruals (discretionary loan loss provisions). They find that banks with higher discretionary accruals are more likely to receive lower credit ratings. Furthermore, they find evidence that banks engaging in earnings smoothing tend to have lower credit ratings. These findings suggest that a firm's earnings management can adversely influence its credit ratings, which likely increases the firm's borrowing costs.

2.2 Stringent Trends in Rating Standards ("Ratings Conservatism")

Prior literature documents the decline in credit ratings over time and provides evidence that ratings agencies have become more conservative in assigning a firm's credit ratings (Blume et al., 1998; Alp, 2013; Baghai et al., 2014; Afik et al., 2016).[13] Blume et al. (1998) are the first to identify the decline in credit ratings of U.S. corporations between 1978 and 1995. They argue that the decline in credit ratings is primarily attributed to more stringent rating standards assigned by ratings agencies. In another study, Jorion et al. (2009) reexamine the tightening of credit ratings documented by Blume et al. (1998) between 1985 and 2002. They show that the downward trend in credit ratings does not correspond to firms with speculative-grade ratings. Jorion et al. argue that, for those firms with investment-grade ratings, changes in accounting information quality over time can explain the tightening of rating standards. Jorion et al. conclude that the downward trend in corporate credit ratings is due to the decline in accounting quality over time, not tightening rating standards applied by ratings agencies. Their results do not conform to those reported in Blume et al. (1998).

However, subsequent studies, such as Alp (2013), Baghai et al. (2014), and Afik et al. (2016), confirm the conclusion of Blume et al. (1998) that the downward trend in corporate credit ratings over time is attributed to the tightening of credit standards by ratings agencies. Specifically, Alp (2013) demonstrates that there are structural shifts in credit rating standards between 1985 and 2007. She provides evidence that credit rating agencies apply stricter rating standards for

[13] Furthermore, Dimitrov et al. (2015) find that, following the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010), credit ratings agencies tend to be more stringent in the assignment of corporate bond ratings. Their finding suggests that credit ratings agencies are more likely to pay strong attention to their reputation.

investment-grade ratings and more relaxed standards for speculative-grade ratings from 1985 to 2002. Turning to the period between 2002 and 2007, she finds that credit rating agencies have tightened their rating standards for both investment- and speculative-grade ratings. Taken together, these three prior studies focus on whether credit ratings agencies have tightened their rating standards over time, but they do not further examine the consequences of the tightening of rating standards on a firm's capital structure decisions.

In more recent research, Baghai et al. (2014) also provide evidence that credit ratings agencies have become more conservative than ever before. Interestingly, when they estimate a rating model without firm fixed effects, their results are similar to those reported in Alp (2013). However, after including firm fixed effects in a ratings model, the stringent trend in rating standards is evident for firms with both investment- and speculative-grade ratings. As Baghai et al. notes, it is important to control for firm fixed effects when estimating a ratings model because a firm's credit ratings can be affected by omitted firm-specific variables. Furthermore, credit ratings agencies consider qualitative criteria as well as quantitative criteria in their assignment of credit ratings. In addition to evidence on ratings conservatism, Baghai et al. further provide implications of ratings conservatism for a firm's decisions on capital structure. To do this, they develop a measure for ratings conservatism using the coefficients estimated from the ratings model, and define the conservatism as the difference between a firm's actual and predicted ratings. Baghai et al. show that firms facing increased ratings conservatism tend to have less debt, lower leverage, and higher cash holdings, compared to their counterparts. Furthermore, they find that such firms are more likely to receive lower credit ratings and suffer lower growth rates. These results suggest that ratings conservatism by ratings agencies has several important implications for a firm's capital structure decisions and for various market participants, e.g., investors and creditors, in capital markets.[14]

In the most recent study, Afik et al. (2016) confirm prior studies providing evidence that credit ratings have become more stringent over time (e.g., Blume et al., 1998; Alp, 2013; Baghai et al., 2014). They argue that the tightening of rating standards is partially attributed to the increase in rating accuracy. Afik et al. further show that corporate credit ratings are more associated with market variables than before and are less associated with accounting variables. Their results do not conform to those of Jorion et al. (2009).

2.3 Ratings Conservatism and Earnings Management

Credit ratings are closely related to the capital structure decisions of firms (Kisgen, 2006; Hovakimian et al., 2009). Corporate decision makers, especially managers, are more subject to prioritizing their credit ratings in their capital structure choice. For example, survey evidence by Graham and Harvey (2001) indicates that chief financial officers (CFOs) consider their firms' credit ratings as a priority in their capital structure decisions. These prior studies and evidence provide a meaningful implication that ratings conservatism by ratings agencies can also affect a firm's decisions on capital structure. Baghai et al. (2014) argue that ratings disadvantages due to ratings conservatism influence a firm's debt level by providing evidence that firms affected by the tightening of rating standards tend to have lower leverage (or less debt). Firms with high credit ratings can more easily access debt markets than those with low credit ratings.

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[14] In addition, Kisgen (2006) investigates whether credit ratings affect a firm's capital structure decisions. He proposes the "credit rating-capital structural hypothesis," and finds that credit ratings play a key role in the determination of corporate capital structure.

As credit rating agencies become more conservative in the assignment of ratings over time, firms that are subject to more ratings conservatism likely experience difficulty in their debt financing. Thus, those firms have a lower debt level than before.[15] Ratings conservatism, therefore, distorts a firm's debt financing decisions. As a result, firms deviate from their target or optimal debt ratios (leverage ratios). That is, such firms have lower leverage ratios than their targets. According to the trade-off theory of capital structure, firms set a target capital structure to meet.[16] In a survey by Graham and Harvey (2001), about 80% of chief financial officers (CFOs) responded that their firms have optimal or target debt ratios. Therefore, in this situation, managers would attempt to move back to their initial target leverage ratios to compensate for the deviations from their target or optimum. Ratings conservatism implies that firms receive relatively lower credit ratings than expected regardless of their financial conditions (e.g., balance sheet perspectives) and operating performance (e.g., income statement perspectives). Accordingly, firms affected by increased ratings stringency respond to ratings conservatism because they have relatively higher credit risk (or default risk) in capital markets and therefore have higher costs associated with their debt financing than before. To adjust their deviated leverage ratios, such firms have a desire to improve their credit ratings because improved ratings signal a lower likelihood of credit risk (or default risk) to market participants, including investors and creditors, which likely results in lower debt financing costs.

Given the above situation, firms more affected by ratings conservatism seek either real or accrual-based earnings management or both to benefit from improved credit ratings and to move

[15] If the capital market "fully" incorporates the effect of ratings conservatism into firm's debt pricing, then firms do not need to consider the effect in their debt financing decisions (see Baghai et al. (2014)).

[16] The trade-off theory argue that firms determine the optimal level of leverage by balancing the benefits of debt (e.g., interest tax shields and reductions in the agency costs of equity) against its costs (e.g., the costs of bankruptcy and the agency costs of debt).

back to their initial target leverage ratios. That is, a manager's decision whether to use earnings management is affected by increased ratings conservatism. At this point, I tentatively posit that ratings conservatism is associated with a firm's earnings management. Prior research suggests that firms undertake real and accrual-based earnings management as alternative means to manage their reported earnings (Roychowdhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012; Chan et al., 2015). Given the tightening standards on credit ratings by rating agencies, these two types of earnings management, however, have different implications for a manager's incentive to manage their reported earnings. Cohen and Zarowin (2010) explain why managers prefer real earnings management to accrual-based earnings management.[17] Zang (2012) shows the trade-off between accrual-based and real earnings management. In addition, from the perspective of a real business environment, managers are less reluctant to manage their reported earnings through real earnings management rather than through accrual-based earnings management. For example, in their survey, Graham et al. (2005) reveal that 78% of participants (i.e., CFOs) are willing to sacrifice their long-term value to meet short-term earnings targets.[18] Therefore, the relation between ratings conservatism and each type of earnings management has different outcomes in response to the tightening of rating standards.

[17] Cohen and Zarowin (2010, p. 4) describe the managers' preference of real-earnings management over accrual-based earnings management as "First, accrual-based earnings management is more likely to draw auditor or regulatory scrutiny than real decisions, such as those related to product pricing, production, and expenditures on R&D or advertising. Second, relying on accrual manipulation alone is risky."

[18] Graham et al. (2005, p. 32-35) state as follows: "We find strong evidence that managers take real economic actions to maintain accounting appearances. In particular, 80% of survey participants report that they would decrease discretionary spending on R&D, advertising, and maintenance to meet an earnings target. More than half (55.3%) state that they would delay starting a new project to meet an earnings target, even if such a delay entailed a small sacrifice in value."

Building on the statement above, I posit that managers in firms affected more by the tightening of rating standards engage in more real earnings management. Unlike accrual-based earnings management, real earnings management is not easily identified because it is directly related to a firm's operating activities, production costs, and discretionary expenses (e.g., research and development (R&D), advertising, and selling, general, and administrative (SG&A) expenses). Thus, real earnings management is less subject to auditor or regulatory scrutiny than accrual-based earnings management (Roychowdhury, 2006; Cohen et al., 2008; Lo, 2008; Gunny, 2010; Cohen and Zarowin, 2010; Zang, 2012). While credit ratings agencies recognize accounting quality as an important item, they are unable to capture and reflect a firm's real earnings management in their assignment of credit ratings.

Given the above, I argue that managers in firms affected by increased ratings conservatism would manage their reported earnings through real earnings management to compensate for ratings disadvantages. Firms affected by ratings conservatism will adjust their current leverage ratios toward their target levels. Ratings conservatism results in a lower level of debt. In this situation, firms seek to boost their sales and earnings (and thus increasing cash flow) through real earnings management because such numbers could appear to be indicative of good operating performance and rapid sales growth and thus likely have a positive impact on their credit ratings. Managers take advantage of their improved credit ratings to adjust their current leverage ratios toward their target ratios through lower debt financing costs. The rationale behind the possibility that real earnings management positively influences a firm's credit ratings is as follows. For example, credit ratings are influenced by a firm's earnings performance or profitability (Ge and Kim, 2014). Credit ratings agencies perceive a firm's earnings and cash flows as crucial financial components for evaluating its creditworthiness (Standard & Poor's, 2008).[19] Credit ratings agencies consider not only a firm's earnings but also its sales in the assignment of ratings. Unlike accrual-based earnings management, real earnings management could enhance a firm's sales and production in the process of managing their earnings. Real earnings management can also positively affect firm performance that is incorporated into its future credit ratings.[20] For example, Gunny (2010) argues that managers engage in real earnings management to signal superior future earnings in an attempt to (just) meet earnings targets. Gunny (2010) finds that real earnings management positively influences firm performance. This finding is consistent with prior studies showing that managers undertake real earnings management to meet earnings targets for the purpose of gaining credibility and reputation from stakeholders (Bartov et al., 2002), which consequently results in better future firm

[19] According to the news article "S&P Raises Harley-Davidson's Credit Rating," increased sales and earnings positively influence credit ratings: "Harley-Davidson Inc.'s (HOG) credit rating was upped to 'A-' from 'BBB+' by Standard & Poor's (S&P) Ratings Services. Thus, the rating agency has assigned a stable outlook for the company. The revision in Harley-Davidson's rating is based on the company's solid second quarter performance together with the company's recovery from the impact of recession. In addition, Harley-Davidson emphasizes on boosting manufacturing efficiency and selling its higher priced motorcycles. Rating affirmations or upgrades from credit rating agencies play an important part in retaining investor confidence in the stock as well as maintaining credit worthiness in the market. Harley-Davidson posted a 13.1% rise in earnings to $1.21 per share in the second quarter of 2013 from $1.07 in the same quarter of prior year. Earnings surpassed the Zacks Consensus Estimate by 4 cents. Net income increased 9.9% to $271.7 million from $247.3 million a year ago" (September 23, 2013). Source: http://www.nasdaq.com/article/sp-raises-harleydavidsons-credit-rating-analyst-blog-cm279547\#/ixzz3oPAVbt1Y.

[20] In contrast to Gunny's (2010) findings, it is argued that real earnings management is negatively related to subsequent operating performance (Eldenburg et al., 2011; Cohen and Zarowin, 2010), and thereby be detrimental to firm value in the long-run (Ewert and Wagenhofer, 2005; Gunny, 2005). In spite of potential costs of real earnings management, survey evidence presented by Graham et al. (2005) shows that the chief financial officers (CFOs) prefer real earnings management over accrual-based earnings management. Graham et al. conclude that "The most surprising finding in our study is that most earnings management is achieved via real actions as opposed to accounting manipulations. Managers candidly admit that they would take real economic actions such as delaying maintenance or advertising expenditure, and would even give up positive NPV projects, to meet short-term earnings benchmarks" (p. 66).

performance and thus possibly better credit ratings. Gunny (2010) concludes that real earnings management "is not opportunistic, but consistent with the firm attaining current-period benefits that allow the firm to perform better in the future." Furthermore, in their survey study, Graham et al. (2005) find that chief financial officers (CFOs) try to meet earnings benchmarks in an attempt to achieve their desired credit ratings.[21] Based on this logic, I infer that managers in firms more affected by ratings conservatism engage in more real earnings management to meet earnings benchmarks in an effort to gain better or desired credit ratings. Therefore, I predict that managers in firms affected more by the tightening of rating standards have incentives to manage their reported earnings through real earnings management.

On the other hand, given desirable or achievable sales and earnings as well as meeting earnings benchmarks, to obtain better credit ratings than before, firms also enhance accounting quality (or earnings quality). A firm's accounting quality is generally considered an important factor in the process of credit rating assignments. In their assignment of credit ratings, credit ratings agencies make an effort to accurately analyze and assess not only financial statements and audited annual reports of the issuer ('quantitative information'), but also accounting quality ('qualitative information'). This view is consistent with prior evidence that credit rating agencies take into account a firm's accounting quality in their rating assignments (Ashbaugh-Skaife et al., 2006; Jorion et al., 2009; Caton et al., 2011; Bae et al., 2013; Shen and Huang, 2013; Standard & Poor's, 2015).[22] To understand the intuition behind this, consider the following simple equation: Net

[21] See Graham et al. (2005, p. 25) for more details.

[22] For example, Ashbaugh-Skaife et al. (2006) show that credit ratings are positively related to accrual quality, measured as abnormal working capital accruals. This finding implies that credit ratings are

income = cash flows from operations + total accruals = cash flows from operations + non-discretionary accruals + discretionary accruals. In other words, net income is calculated as the sum of total accruals and cash flows from operations, where total accruals can be decomposed into non-discretionary and discretionary accruals (Jones, 1991; Dechow et al., 1995; Kasznik, 1999). Part of discretionary accruals is related to a firm's earnings management. Higher earnings management, represented as discretionary accruals, indicate lower accounting quality (or earnings quality). Based on the above equation, assume that, *ceteris paribus*, two firms, A and B, achieve comparable earnings or net income. Suppose also that firm A has greater discretionary accruals, while firm B has lower discretionary accruals. In this situation, although the two firms achieve equivalent net income, firm A exhibits lower accounting quality (or earnings quality) than firm B. Thus, if credit ratings agencies regard accounting quality as a crucial evaluation item in their ratings assignment, firm A is likely to receive lower credit ratings than firm B. This example illustrates the potential trade-off between the benefits and costs associated with a firm's earnings management. Ratings conservatism influences such potential trade-offs. Ratings conservatism also implies that ratings agencies have strengthened their rating standards and possibly considered accounting quality (or earnings quality) as an important component in the assignment of credit ratings. Firms more affected by ratings conservatism engage in less accrual-based earnings management because higher

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negatively related to a firm's earnings management. The implication is consistent with Shen and Huang (2013), who indicate that credit ratings agencies are likely to downgrade ratings when they are aware of a firm's earnings management. In another study, Jorion et al. (2009) highlight the role of accounting information quality in the process of credit rating assignment. Furthermore, Standard & Poor's (2015) demonstrate that they reflect aspects of a debt issuer's accounting principles and practices in evaluating accounting quality.

accounting accruals tend to draw regulatory scrutiny (e.g., the SEC), auditors, or credit ratings agencies (Cohen et al., 2008; Dechow et al., 2010; Zang, 2012; Chan et al., 2015). It is likely that higher accounting accruals give firm mangers discretion to engage in more accrual-based earnings management. Such accrual-based earnings management, however, negatively affect a firm's accounting quality, which potentially leads to the decline in its credit ratings. Consequently, in response to ratings conservatism, firm mangers have incentives to improve their accounting quality (or earnings quality) by engaging in less accrual-based earnings management. This implies that ratings conservatism decreases a firm's incentive to manipulate earnings through accrual-based earnings management.[23]

To summarize, based on the above discussion, I expect a trade-off between real and accrual-based earnings management in response to the tightening standards on credit ratings by rating agencies. Thus, I propose and test the following first hypothesis (in alternative form):

H1: *Ceteris paribus*, as ratings conservatism increases, real earnings management increases while accrual-based earnings management decreases.

Second, I further examine whether a positive (negative) relation between ratings conservatism and real earnings management (accrual-based earnings management) varies across firms with high and low credit quality. I predict that, in the situation of stringent rating standards over time, the positive relation between ratings conservatism and real earnings management is stronger for firms with low credit quality than for those with high credit quality. In contrast, with

[23] Alternatively, as Zang (2012, p. 676) points out, real earnings management must happen for a fiscal year and "is realized by the fiscal year-end." Managers adjust their accrual-based earnings management according to the degree of real earnings management.

respect to accrual-based earnings management, I predict that ratings conservatism and earnings management are greatly influenced by credit quality, which strengthens the negative relation between ratings conservatism and earnings management. The trend in stringent rating standards enables firms to improve their accounting quality to compensate for ratings disadvantages. Furthermore, firms with high and low credit quality respond differently to ratings conservatism. Firms with high credit quality are less likely to be sensitive to ratings conservatism than those with low credit quality. For example, Ashbaugh-Skaife et al. (2006) argue that firms with high credit quality are perceived as having a higher level of earnings quality than those with low credit quality, which is associated with better credit ratings. Their argument is based on accrual-based earnings management that captures a firm's accounting quality and thus earnings quality. It is, however, argued that one cannot either fully or partially captures a firm's earnings quality, represented as real earnings management. One of these reasons is that managerial actions are harder to detect than those through accrual-based earnings management (see, for example, Cohen et al. (2008) and Zang (2012)).

With respect to accrual-based earnings management, in response to ratings conservatism, firms with high credit quality are less likely to reduce earnings management compared to their counterparts. Thus, the reduction in accrual-based earnings management is expected to be smaller than those with low earnings quality. For firms with low credit quality, the positive effects (i.e., credit ratings upgrades through the improvement in earnings quality) associated with less accrual-based earnings management are expected to outweigh the negative effects (i.e., a decrease in reported earnings) related to earnings. For example, firms increase their reported earnings in the current period through accrual-based earnings management in order to influence their credit ratings. However, this pattern in earnings is not persistent. Thus, given that rating standards have become more stringent over time, such earnings management can negatively influence their credit ratings. Instead, those firms will attempt to improve their earnings quality by engaging in less accrual-based earnings management. With respect to firms with low credit quality, the negative relation between ratings conservatism and accrual-based earnings management is stronger than those with high credit quality. Likewise, similar logic can explain the positive relation between ratings conservatism and real earnings management.

Therefore, I predict that if firms are more affected by stringent rating standards, then the positive (negative) relation between ratings conservatism and real earnings management (accrual-based earnings management) is stronger in firms with low credit quality than in those with high credit quality.[24] This prediction and discussion results in the following second hypothesis (stated in alternative form):

H2: The positive (negative) relation between ratings conservatism and real earnings management (accrual-based earnings management) is more pronounced for firms with low credit quality than for those with high credit quality.

[24] My prediction is based on prior literature providing evidence that credit ratings agencies consider accounting quality as an important evaluation item in their assignment of ratings (Ashbaugh-Skaife et al., 2006; Jorion et al., 2009; Caton et al., 2011; Bae et al., 2013; Shen and Huang, 2013; Standard & Poor's, 2015). These prior studies are based on the assumption that credit ratings agencies perceive and adjust for the quality of accounting information when they assign ratings to debt issuers. In addition, credit ratings agencies evaluate not only quantitative information (e.g., earnings and profits), but also qualitative information (e.g., accounting quality) in the ratings process.

CHAPTER 3

RESEARCH DESIGN

To examine whether ratings conservatism affects a firm's earnings management, I employ the following proxies for credit ratings conservatism and earnings management. In the analysis, I use two measures of ratings conservatism proposed by Baghai et al. (2014). On the other hand, I depend on prior literature to measure a firm's real and accrual-based earnings management. In addition to these earnings management measures, I further estimate a firm's earnings smoothing and asymmetric timely loss recognition based on prior literature.

3.1 Measuring Credit Ratings Conservatism

Based on previous literature and industry practice, I employ the rating conservatism measures developed by Baghai et al. (2014). The main variable of interest is credit ratings conservatism. The sample period in this study is from 1985 to 2014. The estimation procedures for predicted ratings are discussed below.

As a first step, using ordinary least square (OLS) regressions, I estimate a ratings model for the period of 1985 to 1996. I also use robust standard errors clustered at the firm level. The ratings model is as follows:[25]

$$Credit\_Ratings_{it} = \alpha_j + \beta' X_{it} + \epsilon_{it}, \tag{1}$$

[25] I use the sample period 1985 to 1996 to calculate the rating model (1) and the sample period 1997 to 2014 to compute ratings conservatism. In addition to these periods, I further employ alternative cut-off years from 1994 to 2003. See subsection 8.2 that discusses different cut-off years employed when measuring ratings conservatism.

where *Credit_Ratings*$_{it}$ denotes Standard & Poor's (S&P) long-term issuer credit ratings of firm *i* in year *t*. I transform the letter ratings into numerical equivalents using an ordinal scale ranging from 1 for the highest rated firms (AAA) to 21 for the lowest rated firms (C). The α_j is the intercept. The β' is the vector of slope coefficients. The X_{it} includes columns with explanatory variables, such as leverage (*Book_Lev*), convertible debt ratio (*Conb*), rental payments (*Rentp*), cash holdings (*Cash*), debt-to-EBITDA (*Debt_Ebitda*), a dummy variable for negative debt-to-EBITDA (*Net_Debt_Ebitda*), EBITDA-to-interest (*Ebitda_Int*), profitability (*Profit*), volatility of profitability (*Vol_Profit*), firm size (*Firm_Size*), asset tangibility (*Tangibility*), capital expenditures (*Capex*), the firm's beta (*Beta*), and the firm's idiosyncratic risk (*Idiosyncratic_Risk*).

Specifically, *Book_Lev* is book leverage, measured as the sum of long- and short-term debt divided by total assets. *Conb* is calculated as the ratio of convertible debt to total assets. *Rentp* is computed as the ratio of rental payments to total assets. *Cash* is the sum of cash and marketable securities divided by total assets. *Debt_Ebitda* is measured as the ratio of total debt to earnings before interest, taxes, depreciation and amortization (EBITDA). *Net_Debt_Ebitda* is a dummy variable equal to one if the ratio of total debt to EBITDA is negative, and zero otherwise. *Ebitda_Int* is calculated as the EBITDA divided by interest payments. *Profit* is measured as the ratio of EBITDA to sales. *Vol_Profit* is the volatility of *Profit*. *Firm_Size* is the natural logarithm of total assets. *Tangibility* is calculated as the ratio of net property, plant, and equipment (NPPE) divided by total assets. *Capex* is measured as capital expenditures divided by total assets. *Beta* is the stock's Dimson beta, estimated from a market-model regression using the daily CRSP value-weighted index returns. *Idiosyncratic_Risk* is the root mean squared error from the market regression.[26]

In the second step, I predict debt ratings using the coefficients estimated from the above equation (1) for each year from 1997 to 2014. I estimate the predicted ratings based on both firm and industry fixed effects. As in Baghai et al. (2014), I assign predicted ratings to 1 if they are smaller than 1 (AAA) and to 21 if they are larger than 21. Furthermore, I treat predicted ratings within the range from 1 to 21 as a continuous variable. I then calculate each measure of ratings conservatism for the period of 1997 to 2014 as follows:[27]

$$Ratings\_Conservatism_{it} = Actual\_Ratings_{it} - Predicted\_Ratings_{it,1985-1996} \quad (2)$$

where $Ratings\_Conservatism_{it}$ represents two measures of ratings conservatism, *Rat_Diff_Firm* and *Rat_Diff_Ind*, for firm *i* in year *t*. $Actual\_Ratings_{it}$ represents actual credit ratings of firm *i* in year *t* for the period of 1997 to 2014. The higher values of ratings conservatism mean that firms are affected more by the tightening of rating

[26] See Baghai et al. (2014, p. 1966-1967) for more details.

[27] There is a concern about the validity of ratings conservatism measure developed by Baghai et al. (2014). For example, Baghai et al. (2014) assume that firm characteristics are time-constant over the period between 1997 and 2014 when estimating predicted ratings based on the period between 1985 and 1996. This assumption is somewhat strong. To relax the constant firm characteristics over the period, I estimate predicted ratings for the period between 1997 and 2014 using recursive regressions. Specifically, to predict ratings for 1997, I use a recursive regression for the period between 1985 and 1996. Then, I repeat the regression to predicted ratings for 1998 using the period between 1985 and 1997. In the same way, I estimate predicted ratings for year *t* using the period between 1985 and *t*-1. See subsection 7.2 that addresses the procedure applied to estimate predicted ratings following Baghai et al. (2014) for more details.

standards (“ratings conservatism”). These two measures of ratings conservatism, *Rat_Diff_Firm* and *Rat_Diff_Ind*, are used as a main explanatory variable in my entire analysis.

3.2 Measures of Earnings Management

With respect to earnings management, I follow prior literature and employ a variety of measures of accrual-based earnings management and real earnings management. These measures are discussed in more detail below.

3.2.1 Accrual-Based Earnings Management (AEM)

Following prior literature (Jones, 1991; Dechow et al., 1995; McNichols 2000; Kothari et al., 2005; Cohen et al., 2008; Cohen and Zarowin, 2010; Dechow et al., 2010), I estimate discretionary accruals. Total accruals (*TA*) are the sum of non-discretionary accruals (*NDA*) and discretionary accruals (*DA*). To compute discretionary accruals, I use the modified Jones (1991) model proposed by Dechow et al. (1995) as follows:

$$\frac{TA_{it}}{AT_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{AT_{it-1}} + \alpha_2 \frac{\Delta REV_{it}}{AT_{it-1}} + \alpha_3 \frac{PPE_{it}}{AT_{it-1}} + \epsilon_{it}, \tag{3}$$

where TA_{it} is the earnings before extraordinary items minus operating cash flows from the statement of cash flows for firm *i* and fiscal year *t*. AT_{it-1} is the total assets for firm *i* and fiscal year *t*-1. ΔREV_{it} is the change in net sales for firm *i* from year *t*-1 to *t*. PPE_{it} is the gross property, plant, and equipment for firm *i* and fiscal year *t*. I estimate a cross-sectional regression for each two-digit SIC industry and year group using equation (3).

Next, using the estimated coefficients obtained from equation (3), I calculate non-discretionary accruals (*NDA*) as follows:

$$NDA_{it} = \hat{\alpha}_0 + \hat{\alpha}_1 \frac{1}{AT_{it-1}} + \hat{\alpha}_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{AT_{it-1}} + \hat{\alpha}_3 \frac{PPE_{it}}{AT_{it-1}} + \epsilon_{it}, \tag{4}$$

where ΔAR_{it} is the change in accounts receivable for firm *i* from year *t*-1 to *t*.

Finally, discretionary accruals are calculated as the difference between total accruals and non-discretionary accruals, which is $DA_{it} = \frac{TA_{it}}{AT_{it-1}} - NDA_{it}$. As a primary proxy for accrual-based earnings management, I use the absolute value of discretionary accruals (*ABS_DA*). I use the absolute value of discretionary accruals because my hypotheses do not predict any specific direction of accrual-based earnings management, e.g., either income-increasing or income-decreasing accruals (Warfield et al., 1995; Klein, 2002; Cohen et al., 2008; Kim et al., 2012). Furthermore, as Cohen et al. (2008) point out, the absolute value of discretionary accruals also capture subsequent accrual reversals of earnings management.

3.2.2 Real Earnings Management (REM)

A firm's real earnings management has attracted growing interest from academics and practitioners in recent years (Graham, 2005; Gunny, 2005; Roychowdhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012). Firms engage in real earnings management by lowering the cost of goods sold through the overproduction of inventory, increasing sales through price discounts and lenient credit terms, and reducing discretionary expenses. Such expenses include advertising, research and development (R&D), and selling, general, and administrative (SG&A) expenses (Roychowdhury, 2006).

I follow Roychowdhury (2006) and estimate the abnormal levels of operating cash flows, production costs and discretionary expenses to capture a firm's real earnings management. Subsequent studies (Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012) provide evidence that these proxies better reflect real earnings management.

First, I use the following equation to estimate the normal level of operating cash flows:

$$\frac{CFO_{it}}{AT_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{AT_{it-1}} + \alpha_2 \frac{Sales_{it}}{AT_{it-1}} + \alpha_3 \frac{\Delta Sales_{it}}{AT_{it-1}} + \epsilon_{it}, \tag{5}$$

where CFO_{it} is the cash flow from operations for firm *i* and fiscal year *t*. $Sales_{it}$ is the net sales for firm *i* and fiscal year *t*. ΔSales_{it} is the change in net sales for firm *i* from year *t*-1 to *t*. I estimate a cross-sectional regression for each two-digit SIC industry and year group using equation (5). The abnormal level of cash flow from operations is estimated as the difference between actual and normal levels of cash flow from operations, i.e., the estimated residual from equation (5). I multiply the estimated residual by negative one (denoted as *REM_CFO*) so that the greater amounts of abnormal operating cash flow indicates upward real earnings managements.

Second, to estimate the normal level of production costs, I use the following equation:

$$\frac{PROD_{it}}{AT_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{AT_{it-1}} + \alpha_2 \frac{Sales_{it}}{AT_{it-1}} + \alpha_3 \frac{\Delta Sales_{it}}{AT_{it-1}} + \alpha_3 \frac{\Delta Sales_{it-1}}{AT_{it-1}} + \epsilon_{it}, \tag{6}$$

where $PROD_{it}$ is the sum of the cost of goods sold for firm *i* and fiscal year *t* and the change in inventory for firm *i* from year *t*-1 to *t*. I estimate a cross-sectional regression for each two-digit SIC industry and year group using equation (6). The abnormal level of production costs (*REM_PROD*) is estimated as the difference between actual and normal levels of production costs, i.e., the estimated residual from equation (6). The higher residual indicates larger amount of overproducing inventory such that firms reduce the cost of goods sold to manage their reported earnings upwards.

Third, using the following equation, I estimate the normal level of discretionary expenses:

$$\frac{DISX_{it}}{AT_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{AT_{it-1}} + \alpha_2 \frac{Sales_{it-1}}{AT_{it-1}} + \epsilon_{it}, \tag{7}$$

where $DISX_{it}$ represents the discretionary expenses for firm *i* and fiscal year *t*. I estimate a cross-sectional regression for each two-digit SIC industry and year group using equation (7). The abnormal level of discretionary expenses is estimated as the difference between actual and normal levels of discretionary expenses, i.e., the estimated residual from equation (7). I multiply the estimated residual by negative one (denoted as *REM_DISX*) so that the greater amounts of discretionary expenditures cut indicates that firms engage in real earnings management.

Finally, following prior literature (Cohen et al., 2008; Cohen and Zarowin, 2010; Zang; 2012), I also use two alternative measures, *REM1* and *REM2*, to capture total real earnings management. Specifically, *REM1* is calculated as the sum of the abnormal level of discretionary expenses multiplied by negative one and the abnormal level of production costs, i.e., *REM_DISX* + *REM_PROD*. *REM2* is computed as the sum of the abnormal level of discretionary expenses and the abnormal level of operating cash flows, both multiplied by negative one, i.e., *REM_DISX* + *REM_CFO*.[28]

3.2.3 Total Earnings Management (TEM)

To examine the effect of ratings conservatism on overall earnings management, I follow Chan et al. (2015) and construct two measures, *TEM1* and *TEM2*. Regarding an overall earnings management proxy, *TEM1* is the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM1*). *TEM2* is the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM2*). The reason I consider these aggregate measures of earnings management is to mitigate potential measurement errors.

3.3 Baseline Regression Model

As noted earlier, this study examines how ratings conservatism affects a firm's earnings management. Specifically, this study tests a hypothesis that firms affected more by ratings conservatism engage in more real earnings management and less accrual-based earnings management. I use the following model to test the first and second hypotheses (H1 and H2).[29]

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[28] In addition to these proxies capturing real earnings management, following Cohen et al. (2008) and Kim et al. (2012), I generate a combined proxy by summing three individual proxies, i.e., *REM_PROD* + *REM_DISX* + *REM_CFO*. Using the combined proxy, I repeat my analysis. The combined proxies for real earnings management attenuate measurement errors due to individual proxies. Untabulated results are qualitatively similar to those reported in Tables 6 through 11. For one thing, as Roychowdhury (206) points out, price discount and overproduction lead to a decrease in cash flows, while cutting discretionary expenditures result in an increase in cash flows. That is, real earnings management has an influence on cash flows from operations in different directions. In particular, Zang (2012) does not consider the abnormal level of operating cash flows in her analysis (Zang, 2012). In a subsequent study, Chan et al. (2015) use two measures of real earnings management employed in my study.

[29] This regression model is similar to those in Zang (2012), Kim et al. (2012), and Chan et al. (2015).

$$\boldsymbol{REM_{it}} \text{ (or } \boldsymbol{AEM_{it}}) = \beta_0 + \beta_1 \boldsymbol{Ratings\_Conservatism_{it-1}} + \beta_2 Size_{it} + \beta_3 Leverage_{it}$$
$$+ \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 Firm\_Age_{it} + \beta_7 Big4_{it} + \beta_8 SOX_{it}$$
$$+ \beta_9 Z\_Score_{it} + \beta_{10} Loss_{it} + \beta_{11} NOA_{it} + \beta_{12} M\&A_{it} + \beta_{13} Restruct_{it}$$
$$+ \beta_{14} \boldsymbol{AEM_{it}} \text{ (or } \boldsymbol{REM_{it}}) + \Sigma\, \beta_j Industry_j + \Sigma\, \beta_k Year_k + \varepsilon_{it}, \qquad (8)$$

where REM_{it} denotes the measures of real earnings management of firm *i* in year *t*. *REM* is one of the five measures, *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1*, and *REM2*, as defined in Appendix B. AEM_{it} denotes the measures of accrual-based earnings management of firm *i* in year *t*. A*EM* is one of three measures, *ABS_DA*, *Positive_DA*, and *Negative_DA*.[30] I further generate two aggregate earnings management measures, *TEM1* and *TEM2*, to capture the total effects of real and accrual-based earnings management. All relevant measures are defined in Appendix B.

The main variable of interest, $Ratings\_Conservatism_{it-1}$, is the lagged difference between the actual and predicted ratings. I use two measures of ratings conservatism based on firm and industry fixed effects, i.e., *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. Two ratings conservatism proxies, lagged by one year, can alleviate endogeneity concerns.[31] In the regression equation (8), with respect to real earnings management, I expect the coefficient on each lagged ratings conservatism measure, $Ratings\_Conservatism_{it-1,}$ to be positive, indicating that firms more

[30] As a robust check, I also use alternative measures of accrual-based earnings management. See subsection 8.1 for more details.

[31] In the models in which I study earnings management, all explanatory variables are measured contemporaneously, except for the difference between the actual and the predicted ratings, which is lagged by one year to mitigate endogeneity concerns. In my context, endogeneity may arise from the fact that the firm’s rating is affected by the company's earnings management, while the rating is also employed to compute ratings conservatism. If I measure both ratings conservatism and earnings management contemporaneously, the direction of causality is not clear. Lagging addresses this concern as long as there is no feedback effect between the firm's current earnings management and future ratings conservatism.

affected by ratings conservatism engage in more real earnings management than their counterparts. In contrast, regarding accrual-based earnings management, I expect a negative coefficient on $Ratings\_Conservatism_{it-1}$, suggesting that firms more affected by ratings conservatism engage in less accrual-based earnings management. Collectively, in equation (8), I expect that ratings conservatism leads to a substitution between real and accrual-based earnings management.

So far, a number of studies investigate a firm's earnings management from various aspects. [32] Based on these prior studies, I control for firm size (*Size*), leverage (*Leverage*), market-to-book ratios (*MTB*), return on assets (*ROA*), dummies for firm age (*Firm_Age*), dummies for Big 4 auditors (*Big4*), SOX dummies (*SOX*), the modified version of Altman's (1968, 2000) Z-score (*Z_Score*), dummies for firm's loss (*Loss*), dummies for net operating assets (*NOA*), dummies for merger and acquisition (*M&A*), and dummies for restructuring charges (*Restruct*) in equation (8). The subscript *it* represents a firm *i* for fiscal year *t*. I include firm size (*Size*) to control for size effects in the industry. Prior research (Klein, 2002; Xie et al., 2003; Cheng and Warfield, 2005; Bergstresser and Philippon, 2006; Zang, 2012; Massa et al., 2015) documents that firms size is one of the determinants of a firm's earnings management. However, the results regarding the relation between earnings management and firm size is mixed. For example, Klein (2002) predicts that firm size has a negative relation with earnings management, measured as the absolute value of adjusted abnormal accruals. However, she finds an insignificant relation between firm size and accrual-based earnings management. The logic behind the negative relation is that while smaller firms are less

[32] For example, DeFond and Jiambalvo, 1994; Dechow et al., 1995; Becker et al., 1998; Francis et al., 1999; McNichols, 2000; Barton and Simko, 2002; Dechow and Dichev, 2002; Klein, 2002; Matsumoto, 2002; Xie et al., 2003; Cheng and Warfield, 2005; Kothari et al., 2005; Bergstresser and Philippon, 2006; Hribar and Nichols, 2007; Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012; Liu and Espahbodi, 2014; Massa et al., 2015.

likely to face more frequent monitoring from stakeholders, such as regulators and auditors, larger firms are more likely to have effective internal control systems. Consequently, smaller firms have more incentive to manage their reported earnings than larger firms. Xie et al. (2003) further show an insignificant relation between firm size and discretionary accruals. In a similar way, Zang (2012) provides evidence that firm size is negatively related to accrual-based earnings management, but is positively related to real earnings management. In contrast, Massa et al. (2015) find that larger firms tend to engage in more accrual-based earnings management.

Next, I control for a firm's financial leverage (*Leverage*) that affects its earnings management. DeFond and Jiambalvo (1994) argue that debt covenant violation is related to earnings management, i.e., the choice of discretionary accruals. Managers in highly leveraged firms have incentives to manage their reported earnings upward, i.e., income-increasing earnings management, to avoid debt covenant violation (Becker et al., 1998). Klein (2002) and Cheng and Warfield (2005) show a negative relation between firm leverage and accrual-based earnings management. Prior studies on earnings management include market-to-book ratios (*MTB*) to control for a firm's growth opportunities (Warfield et al., 1995; Klein, 2002; Cheng and Warfield, 2005; Bergstresser and Philippon, 2006; Zang, 2012). In general, firms with more growth opportunities tend to have higher market-to-book ratios. Warfield et al. (1995) find that firms with high growth opportunities have more abnormal accruals. Barth et al. (1999) and Skinner and Sloan (2002) argue that managers in firms with higher growth opportunities have more incentives to manage their earnings upward. Next, to reduce bias associated with firm performance, following prior studies

(McNichols, 2000; Kothari et al., 2005; Cohen and Zarowin, 2010; Zang, 2012; Chan et al., 2015; Järvinen and Myllymäki, 2016), I control for a firm's return on assets (*ROA*). In particular, Zang (2012) find that return on assets is negatively related to real earnings management and positively related to accrual-based earnings management. I follow Bergstresser and Philippon (2006) and Jiang et al. (2010) and include a firm age dummy variable (*Firm_Age*) equal to one if a firm listed on Compustat is more than 20 years old and zero otherwise. They find a negative relation between a firm age dummy and earnings management, proxied by the absolute value of discretionary accruals. This finding indicates that older firms tend to engage in less earnings management than younger firms.

Furthermore, I control for Big 4 auditors (*Big4*) that affect a firm's earning management. As in Becker et al. (1998) and Francis et al. (1999), I expect a negative relation between the dummies for Big 4 auditors and the absolute of value of discretionary accruals. On the other hand, Cohen and Zarowin (2010) find that firms audited by large audit firms (the Big 8) are more likely to engage in real earnings management. In a subsequent study, Zang (2012) find consistent results with Cohen and Zarowin (2010). Thus, I expect a positive relation between the dummies for Big 4 auditors and proxies for real earnings management. Following Cohen et al. (2008) and Cohen and Zarowin (2010), I include a SOX dummy variable (*SOX*) equal to one for all years after 2001, and zero otherwise. Cohen et al. (2008) find that while firms decrease accrual-based earning management after the passage of the Sarbanes-Oxley Act (SOX) in 2002, they increase real-earnings management after the passage. Cohen and Zarowin (2010) find that real earnings management increases significantly after the passage of SOX. Following Zang (2012), I control for

Altman's Z-score (*Z_Score*) as a proxy for a firm's financial health. Zang (2012) use the Altman's Z-score to capture the cost of real earnings management. She finds that firms with a higher Z-score engage in less accrual-based earnings management, while those firms engage in more real earnings management. I also include a loss indicator variable (*Loss*) to control for a firm's financial performance. This financial performance proxy can affect a firm's earnings management. As in Zang (2012) and Chan et al. (2015), I control for an indicator for a firm's net operating assets (*NOA*). Zang (2012) find that *NOA* is positively related to real earnings management and negatively related to accrual-based earnings management. Following Chan et al. (2015), I control for two indicator variables, *M&A* and *Restruct*. In equation (8), following Cohen et al. (2008), Zang (2012), and Chan et al. (2015), I include *AEM* (or *REM*) to consider a substitution between real and accrual-based earnings management. Finally, I include year and industry fixed effects to control for differences in firm characteristics that affect a firm's earnings management across industries and time. All variables used in equation (8) are defined in Appendix B.

In my empirical analysis, I perform pooled ordinary least squares (OLS) regressions using robust standard errors clustered at the firm level.[33] All continuous variables are winsorized at the 1% and 99% levels to reduce the impact of extreme outliers. In addition to the main tests using equation (8), I further conduct a variety of additional analyses and robustness tests.

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[33] As a robustness check, I also use robust standard errors clustered at both the firm and year levels to control for within-firm correlation of the residuals across time, as suggested by Petersen (2009). My main results still hold when I employ two-way clustered standard errors.

CHAPTER 4

SAMPLE SELECTION AND ESTIMATION OF RATINGS MODELS

4.1 Data Selection

My sample selection procedures are threefold. First, I collect data on monthly debt ratings issued by Standard & Poor's (S&P) from 1985 to 2014. My sample includes publicly traded and rated U.S. firms. The data is extracted from the Compustat Ratings File. Following Baghai et al. (2014), I use the S&P long-term issuer credit ratings. The S&P categorizes bond credit ratings into AAA, AA+, AA, AA−, A+, A, A−, BBB+, BBB, BBB−, BB+, BB, BB−, B+, B, B−, CCC+, CCC, CCC−, CC, and C. Using an ordinal scale ranging from 1 for the highest rated firms (AAA) to 21 for the lowest rated firms (C), I convert the letter ratings into numerical equivalents. I use the first rating that is available three months after the fiscal year-end to assign debt ratings per year. Second, I collect annual financial data from the Compustat Annual Database and stock return data from the CRSP Database for the period between 1985 and 2014. In the sample, I exclude both financial firms (SIC codes between 6000-6999) and utility firms (SIC codes between 4900-4999). Finally, I combine ratings data with annual financial data from Compustat and stock returns from CRSP, and drop missing values due to the combination. In addition, I remove firm-year observations with missing values. I also winsorize all the continuous variables at the 1% and 99% levels to mitigate the impact of extreme observations.

4.2 Ratings Models

This subsection presents descriptive statistics for relevant variables used in the estimation of ratings models. I follow the Baghai et al.'s (2014) procedures to estimate ratings model. In this analysis, I use a sample of 35,160 firm-year observations over the period between 1985 and 2014. All variables are defined in Appendix A.

4.2.1 Data Description

Table 1 shows the distribution of credit ratings over the period between 1985 and 2014. For convenience, I combine the minus (−), middle, and plus (+) specifications for each broad credit rating. For example, the AA category includes credit ratings of AA+, AA, and AA−. As shown in the table, the quality of credit ratings for U.S corporate debt has deteriorated over time. The distribution of credit ratings in the sample is similar to that in Baghai et al. (2014).

[Please insert Table 1 here]

Table 2 reports descriptive statistics for relevant variables used in equation (1). This table shows that the average ratings variable (*Rating*) has increased from 8.871 in 1985 to 11.195 in 2014. This increasing trend in the ratings variable indicates that credit ratings have become worse during the period. The trend in the ratings variable is consistent with that in Baghai et al. (2014).

[Please insert Table 2 here]

4.2.2 Estimating Ratings Models

Using equation (1), I estimate ratings models. I use OLS and ordered logit regressions with industry (or firm) and year dummies. In the regressions, I employ explanatory variables used in

Baghai et al. (2014), such as *Book_Lev*, *Conb*, *Rentp*, *Cash*, *Debt_Ebitda*, *Net_Debt_Ebitda*, *Ebitda_Int*, *Profit*, *Vol_Profit*, *Firm_Size*, *Tangibility*, *Capex*, *Beta*, and *Idiosyncratic_Risk*. In regression models (1)-(6), I use robust standard errors clustered at the firm level.

Table 3 shows the results of the ratings models on the relation between each explanatory variable and credit ratings. In columns (1), (3), (5), and (6), I run pooled OLS regressions. I also run ordered logit regressions in columns (2) and (4). In the first four columns, I consider industry and year fixed effects. Furthermore, I consider firm and year fixed effects in the last two columns. The results reported in all columns (1)-(6) are consistent with those in Baghai et al. (2014). In contrast to Baghai et al. (2014) who use three-digit SIC industry, I use industry dummies with the two-digit SIC industry. The results are similar to those in Baghai et al. (2014). I further use the three-digit SIC industry for generating industry dummies, and I obtain similar results with those found in Baghai et al. (2014). As in Baghai et al. (2014), the variables of main interest are year dummies. The results reported in all columns show that there is an increase in the ratings variable, indicating that credit ratings have worsened during the sample period. The decline in ratings with respect to year dummies implies that credit ratings agencies have tightened their rating standards during the period between1985 and 2014.

[Please insert Table 3 here]

Figure 1 represents the plot of coefficients on year dummies in columns (1)-(6). This figure graphically shows the increasing trend in the coefficients on year dummies, which implies the tightening of rating standards over my sample period.

[Please insert Figure 1 here]

CHAPTER 5

RESULTS

5.1 Descriptive Statistics and Correlations

Table 4 reports descriptive statistics for relevant variables used in the analysis. The average and median discretionary accruals (*DA*) are about 0.0017 and 0.0060, respectively. The average *DA* is not zero due to its winsorization. The average and median values of the absolute value of discretionary accruals (*ABS_DA*) are about 0.0482 and 0.0315, respectively. The average for *ABS_DA* indicates that it accounts for 4.82 percent of total assets. Regarding three individual measures for real earnings management, the average and median abnormal level of production costs (*REM_PROD*) are 0.0023 and 0.0044, respectively. The average and median abnormal level of discretionary expenses (*REM_DISX*) are 0.0079 and 0.0174, respectively. The average and median abnormal level of cash flow from operation (*REM_CFO*) are -0.0015 and -0.0006, respectively. The average and median of the aggregate measures of real earnings management, *REM*1 and *REM2* are 0.0111 (0.0208) and 0.0069 (0.0169), respectively. The average and median of the total earnings management, *TEM1* and *TEM2*, are 0.0595 (0.0663) and 0.0553 (0.0584), respectively. Furthermore, the average and median of earnings smoothing measures, *EM_SMOOTH1*, *EM_SMOOTH2*, and *EM_SMOOTH3*, are 0.5113 (0.5169), 0.5021 (05250), and 0.5141 (0.5227), respectively.

With respect to two measures for ratings conservatism, *Rat_Diff_Firm* and *Rat_Diff_Ind*, the average (median) values are 0.4749 (2.1064) and 0.6193 (2.2817), respectively. The average and median values of *Size* are 8.4460 and 8.3188, respectively. Sample firms have, on average, a leverage ratio (*Leverage*) of 0.2329, a market-book ratio (*MTB*) of 2.8671, and return on assets (*ROA*) of 9.56 percent. At least, 47.94 percent in sample firms have been listed on the Compustat for over 20 years. About 90.80 percent of sample firms are audited by the Big 4 auditors. The averages for *SOX* and *Z_Score* are 0.7230 and 8.3083, respectively. Finally, the average *LOSS*, *NOA*, *M&A*, and *Restruct* are 0.2399, 0.5306, 0.1621, and 0.3803, respectively.

[Please insert Table 4 here]

Table 5 shows Pearson correlations among variables. I find a positive and significant correlation between *Rat_Diff_Firm* and *ABS_DA*. On the other hand, the correlation between *Rat_Diff_Ind* and *ABS_DA* is positive but insignificant. I also find a negative and significant correlation between *Rat_Diff_Firm* and *DA*. The correlation between *Rat_Diff_Ind* and *DA* is negative but insignificant. While *ABS_DA* is positively and significantly correlated with *REM_PROD* and *REM_CFO*, it is negatively and significantly correlated with *REM_DISX*. Next, while *Size*, *ROA*, *Firm_Age*, *Big4*, *SOX*, *Z_Score*, *NOA*, *M&A*, and *Restruct* are negatively and significantly correlated with *ABS_DA*, *Leverage* and *Loss* are positively and significantly correlated with *ABS_DA*. *REM_PROD* is negatively and significantly correlated with *Size*, *MTB*, *ROA*, *Firm_Age*, and *Z_Score* while it is positively and significantly correlated with *Leverage*, *Loss*, and *NOA*. *REM_DISX* is negatively and significantly correlated with *Size*, *MTB*, and *ROA* while it is positively and significantly correlated with *Leverage*. Finally, *REM_CFO* is negatively and significantly correlated with *Z_Score*, but positively and significantly correlated with *NOA* and *Restruct*.

[Please insert Table 5 here]

5.2 Relation between Ratings Conservatism and Accrual-Based Earnings Management: Testing H1

In this subsection, I investigate the relation between ratings conservatism and accrual-based earnings management. To do this, I use the absolute value of discretionary accruals (*ABS_DA*) as a proxy for earnings management. Furthermore, I divide discretionary accruals (*DA*) into two subgroups, positive discretionary accruals (*Positive_DA*) and negative discretionary accruals (*Negative_DA*). The reason I split discretionary accruals into two subgroups is that my first hypothesis predicts any specific direction for a firm's earnings management. I also use two measures, *Rat_Diff_Firm* and *Rat_Diff_Ind*, as proxies for credit ratings conservatism.

Table 6 reports the results of pooled OLS regressions with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is the lagged *Rat_Diff_Firm* (*Lagged_Rat_Diff_Firm*). In column (1) using the absolute value of discretionary accruals for a dependent variable, I find a negative and significant (*p-value*=0.045) coefficient on *Lagged_Rat_Diff_Firm*. This finding suggests that firms affected more by ratings conservatism tend to engage in less accrual-based earnings management, which is consistent with my first hypothesis. The coefficient on *Size* is negative and significant, indicating that larger firms have less incentive to manage their report earnings, which is consistent with the prediction by Klein (2002). The coefficient on *Leverage* is negative and significant. I also find a positive but insignificant coefficient on *MTB*. Warfield et al. (1995) find that firms with more growth opportunities engage in more accrual-based earnings management. The coefficient on *ROA* is negative and significant, suggesting that firms with high return on assets have less incentive to use accrual-based earnings management. I find a negative and significant coefficient on *Firm_Age*. This suggests that young firms engage in more accrual-based earnings management than old firms, which is consistent with Bergstresser and Philippon (2006) and Jiang et al. (2010). I find a negative and significant coefficient on *SOX*, indicating that firms decrease accrual-based earnings management after the passage of SOX. This finding is consistent with Cohen et al. (2008). The coefficient on *Z_Score* is negative and significant, suggesting that firms with better financial health engage in less accrual-based earnings management. The coefficient on *Loss* is positive and significant, indicating that firms with negative net income tend to use more accrual-based earnings management. Finally, I find a negative and significant coefficient on *NOA*. The finding suggests that firms with higher net operating assets engage in less accrual-based earnings management, which is consistent with Barton and Simko (2002).

Turing to column (2) using *Positive_DA* for a dependent variable, I find a negative but insignificant coefficient on *Lagged_Rat_Diff_Firm*. The coefficient on *Size* is negative and significant, indicating that smaller firms have less incentive to manage their reported earnings upward. Consistent with Cohen et al. (2008), I find that firms have less incentive to manage their reported earnings upward after the passage of SOX. The coefficient on *Z_Score* is negative and significant, indicating that firms with good financial condition engage in less income-increasing earnings management. The coefficient on *Loss* is negative and significant, suggesting that firms with negative net income engage in less income-increasing earnings management. I find a negative and significant coefficient on *NOA*, indicating that firms with higher net operating assets engage in less income-increasing earnings management. Finally, the coefficients on *M&A* and *Restruct* are negative and significant, suggesting that firms engaging in merger and acquisition or undergoing restructuring activities engage in less income-increasing earnings management.

In column (3) with *Negative_DA* for a dependent variable, the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant (*p-value*=0.036), indicating that firms affected more by ratings conservatism have less incentive to manage earnings downward. The coefficient on *Size* is positive and significant, suggesting that larger firms engage in less income-decreasing earnings management. I find positive and significant coefficients on *Leverage* and *ROA*. These findings indicate that highly leveraged firms and firms with high return on assets engage in less income-decreasing earnings management. The coefficient on *Firm_Age* is positive and significant, suggesting that older firms have less incentive to manage earnings downward. I find a positive and significant coefficient on *SOX*. This finding indicates that firms engage in less income-decreasing earnings management after the passage of SOX. The coefficient on *Z_Score* is positive and significant, suggesting that firms with better financial health engage in less income-decreasing earnings management. The coefficient on *Loss* is negative and significant, suggesting that firms with negative net income engage in less income-decreasing earnings management. Finally, while the coefficient on *NOA* is positive and significant, the coefficient on *M&A* is negative and significant.

In columns (4) through (9), following prior literature (Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012; Chan et al., 2015), I control for aggregate measures of real earnings management, *REM1* and *REM2*, to consider a substitution between real and accrual-based earnings management. In both columns (4) and (7), the coefficients on *Lagged_Rat_Diff_Firm* are negative and significant, which is consistent with my prediction that firms affected more by ratings conservatism engage in less accrual-based earnings management. The coefficients on *Lagged_Rat_Diff_Firm* in columns (5) and (8) are negative but insignificant, while the coefficient on *Lagged_Rat_Diff_Firm* in column (6) is positive and significant. Furthermore, in column (9), the coefficient on *Lagged_Rat_Diff_Firm* is positive but insignificant. As expected, I find negative and significant coefficients on *REM1* and *REM2*, respectively, which provides evidence of the substitution between real and accrual-based earnings management. That is, managers use real and accrual-based earnings as substitutes to manage their reported earnings.

[Please insert Table 6 here]

Table 7 reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is the lagged *Rat_Diff_Ind*. In column (1), I find a negative and significant (*p-value*=0.010) coefficient on *Lagged_Rat_Diff_Ind*, suggesting that rating conservatism decreases accrual-based earnings management. While the coefficients on *Size*, *Leverage*, *ROA*, *Firm_Age*, *SOX*, *Z_Score*, and *NOA* are negative and significant, the coefficient on *Loss* is positive and significant. These results are consistent with those reported in column (1) of Table 6. Turning to column (2), I find a negative and significant (*p-value*=0.058) coefficient on *Lagged_Rat_Diff_Ind*, indicating that firms affected more by rating conservatism have less incentive to engage in income-increasing earnings management. Consistent with results in column (2) of Table 6, the coefficients on *Size, SOX, Z_Score*, *Loss*, *NOA*, *M&A*, and *Restruct* are negative and significant. In column (3), the coefficient on *Lagged_Rat_Diff_Ind* is positive and significant (*p-value*=0.059), which is consistent with my prediction that ratings conservatism leads to less income-decreasing earnings management. Furthermore, I find consistent results with those reported in column (1) of Table 6.

In columns (4) to (9), I control for two aggregate measures of real earnings management, *REM1* and *REM2*, respectively. Consistent with those in Table (6), I find negative coefficients on *Lagged_Rat_Diff_Ind* in columns (4), (5), (7), and (8) and positive coefficients in columns (6) and (8). These findings indicate that, as ratings conservatism increases, managers engage in less accrual-based earnings management, including income-increasing and income-decreasing earnings management. Like Table (6), the coefficients on *REM1* and *REM2* are negative and significant. These findings are indicative of a substitution between real and accrual-based earnings management.

[Please insert Table 7 here]

Overall, the results from Tables (6) and (7) show that firms affected more by ratings conservatism engage in less accrual-based earnings management. These findings suggest that ratings conservatism reduces a firm's incentive to engage in accrual-based earnings management, measured through the absolute value of discretionary accruals as well as positive and negative discretionary accruals, which supports my first hypothesis (H1).

5.3 Relation between Ratings Conservatism and Real Earnings Management: Testing H1

In this subsection, I examine the relation between ratings conservatism and real earnings management. To do so, I consider the abnormal levels of production costs (*REM_PROD*), discretionary expenses (*REM_DISX*), and cash flow from operations (*REM_CFO*) as well as aggregate measures of real earnings management, *REM1* and *REM2*. Furthermore, I use two measures, *Rat_Diff_Firm* and *Rat_Diff_Ind*, as proxies for ratings conservatism.

Table 8 reports the results of pooled OLS regressions with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1*, and *REM2* as each dependent variable. The main variable of interest is lagged *Rat_Diff_Firm* (*Lagged_Rat_Diff_Firm*). In column (1), where *REM_PROD* is the dependent variable, I find a positive and significant (*p-value*<0.001) coefficient on *Lagged_Rat_Diff_Firm*. The result suggests that ratings conservatism engages in more abnormal production. While the coefficients on *Size*, *Leverage*, *Z_Score*, and *M&A* are positive and significant, the coefficients on *MTB*, *ROA*, *LOSS*, *NOA*, and *Restruct* are negative and significant. In column (2), where the dependent variable is *REM_DISX*, the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant (*p-value*=0.042), indicating that ratings conservatism reduces discretionary expenses. In column (3), I find a positive and significant (*p-value*=0.003) coefficient on *REM_CFO*, suggesting that ratings conservatism is related to abnormally high operating cash flow. The results in columns (4) and (5) confirm that firms more affected by ratings conservatism engage in more real earnings management, as the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant in both columns. In columns (6) to (10), I control for the absolute value of discretionary accruals (*ABS_DA*) to consider a substitution between real and accrual-based earnings management. Consistent with previous results, I find positive and significant coefficients on *Lagged_Rat_Diff_Firm* in all columns, suggesting that ratings conservatism increases a firm's incentives to engage in more real earnings management. In columns (9) and (10), including *REM1* and *REM2*, respectively, I find negative and significant coefficients on *ABS_DA*. Finally, in all columns, relevant control variables take the predicted signs.

[Please insert Table 8 here]

Table 9 reports the results of pooled OLS regressions with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1*, and *REM2* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Ind*. In column (1), the coefficient on *Lagged_Rat_Diff_Ind* is positive and significant (*p-value*=0.003), suggesting that ratings conservatism leads to more abnormal production costs. In column (2), the coefficient on *Lagged_Rat_Diff_Ind* is positive but insignificant. Column (3) shows a positive and significant coefficient on *Lagged_Rat_Diff_Ind*, indicating that ratings conservatism leads to high abnormal cash flow. The results from columns (4) and (5) suggest that firms more affected by ratings conservatism engage in more real earnings management. Turning to columns (6) to (10), including *ABS_DA* as an additional control variable, I find that the coefficients on *Lagged_Rat_Diff_Ind* are positive and significant, indicating that ratings conservatism results in more real earnings management.

[Please insert Table 9 here]

Collectively, the results from Tables (8) and (9) show that firms affected more by ratings conservatism engage in more real earnings management. These findings suggest that ratings conservatism increases a firm's incentive to engage in more real earnings management, measured as the abnormal levels of production costs (*REM_PROD*), discretionary expenses (*REM_DISX*), and cash flow from operations (*REM_CFO*) as well as aggregate measures of real earnings management, *REM1* and *REM2*, which supports my first hypothesis (H1). Furthermore, I find that the coefficients on *ABS_DA* are negative and significant, indicating a substitution between accrual-based and real earnings management for columns (9) and (10).

5.4 Relation between Ratings Conservatism and Total Earnings Management

In this subsection, I further examine the relation between ratings conservatism and total earnings management. To do so, I sum the signed discretionary accruals (*DA*) and each aggregate measure of real earnings management (using either *REM1* or *REM2*) to capture total earnings management. I generate two measures of total earnings management, *TEM1* and *TEM2*, as defined in Appendix B.

Table 10 reports the results of pooled OLS regressions with *TEM1* as a dependent variable. In columns (1) to (4), I find that the coefficients on *Lagged_Rat_Diff_Firm* are positive and significant, indicating that ratings conservatism increases total earnings management, represented by *TEM1*. The finding suggests that the increase in real earnings management is greater than the decrease in accrual-based earnings management. Similarly, in columns (5) to (8), the coefficients on *Lagged_Rat_Diff_Ind* are positive and significant.

[Please insert Table 10 here]

Table 11 shows the results of pooled OLS regressions with *TEM2* as a dependent variable. As in Table 10, I find that the coefficient on either *Lagged_Rat_Diff_Firm* or *Lagged_Rat_Diff_Ind* is positive and significant, suggesting that ratings conservatism leads to the increase in total earnings management.

[Please insert Table 11 here]

Overall, the results from Tables 6 to 9 indicate that ratings conservatism leads to less accrual-based earnings management (*AEM*), but more real earnings management (*REM*). On the other hand, Tables 10 and 11 suggest that, given the two opposite effects, ratings conservatism increases total earnings management (*TEM*).

5.5 Investment- and Speculative-Grade Firms (Accrual-Based Earnings Management): Testing H2

I investigate how the negative relation between ratings conservatism and accrual-based earnings management varies across investment- and speculative-grade issuers. To do this, I split sample firms into two subsamples: one includes investment-grade (IG) firms and the other includes speculative-grade (SG) firms. The investment-grade firms have debt ratings of BBB- or above and the speculative-grade firms have debt ratings below BBB-. Regarding accrual-based earnings management, I use the absolute value of discretionary accruals (*ABS_DA*) as a dependent variable to test the second hypothesis (H2).

Table 12 shows the results of the pooled OLS regression with regard to *Lagged_Rat_Diff_Firm*. In column (1) for the investment-grade group, the coefficient on *Lagged_Rat_Diff_Firm* is negative but insignificant. The coefficient on *ROA* is positive and significant, suggesting that investment-grade firms with high return on assets engage in more accrual-based earnings management. The coefficient on *Firm_Age* is negative and significant. This finding indicates that older investment-grade firms engage in less accrual-based earnings management. The coefficient on *SOX* is positive and significant, indicating that accrual-based earnings management in investment-grade firms increases after the passage of SOX. The coefficient on *Loss* is positive and significant, suggesting that investment-grade firms with high net income engage in more accrual-based earnings management. Finally, the coefficient on *NOA* is negative and significant, indicating that investment-grade firms with high net operating assets engage in less accrual-based earnings management.

In column (2) for the speculative-grade group, I find a negative and significant (*p-value*=0.012) coefficient on *Lagged_Rat_Diff_Firm*. Regarding the speculative-grade firms, this finding indicates that those affected more by ratings conservatism engage in less accrual-based earnings management. The coefficient on *Size* is negative and significant, suggesting that large speculative-grade firms engage in less accrual-based earnings management. The coefficient on *Leverage* is negative and significant, indicating that highly leveraged speculative-grade firms engage in less accrual-based earnings management. The coefficient on *ROA* is negative and significant, suggesting that speculative-grade firms with high return on assets engage in less accrual-based earnings management. Next, I find a positive and significant coefficient on *Big4*. The finding indicates that speculative-grade firms audited by Big 4 accounting firms engage in more accrual-based earnings management. The coefficient on *SOX* is negative and significant, indicating that accrual-based earnings management in speculative-grade firms decreases after the passage of SOX. Furthermore, while the coefficients on *Z_Score* and *NOA* are negative and significant, the coefficient on *Loss* is positive and significant.

In columns (3) to (6), I control for aggregate real earnings management, measured as either *REM1* or *REM2*, to consider a substitution between accrual-based and real earnings management. With respect to investment-grade firms, I find that the coefficient on *Lagged_Rat_Diff_Firm* is negative but insignificant. In contrast, regarding speculative-grade firms, I find that the coefficient on *Lagged_Rat_Diff_Firm* is negative and significant. These findings suggest that speculative-grade firms more affected by ratings conservatism engage in less accrual-based earnings management. In addition, with respect to speculative-grade firms, the coefficient on either *REM1* or *REM2* is negative and significant, indicating a substitution between accrual-based and real earnings management.

Finally, I test the equality of regression coefficients on *Lagged_Rat_Diff_Firm* between investment- and speculative-grade groups. The bottom of Table 12 shows that the chi-square statistics are 4.45 (*p-value*=0.035), 3.88 (*p-value*=0.049), and 3.79 (*p-value*=0.052), respectively. These results indicate that both coefficients on *Lagged_Rat_Diff_Firm* between two groups are different from each other.

[Please insert Table 12 here]

Table 13 reports the results of the pooled OLS regression with regard to *Lagged_Rat_Diff_Ind*. Similar to those reported in Table 12, column (1) shows that the coefficient on *Lagged_Rat_Diff_Ind* is negative but significant. The coefficients on *ROA* and *Loss* are positive and significant, while the coefficients on *Firm_Age*, *SOX*, and *NOA* are negative and significant. In contrast, column (2) shows that the coefficient on *Lagged_Rat_Diff_Ind* is negative and significant (*p-value*=0.001). This negative relation indicates that speculative-grade firms that are affected more by ratings conservatism have less incentive to engage in accrual-based earnings management. I further find that the coefficients on *Size*, *Leverage*, *ROA*, *SOX*, *Z_Score*, and *NOA* are negative and significant, while the coefficients on *Big4* and *Loss* are positive and significant.

In columns (3) to (6), I include two proxies for aggregate real earnings management, respectively, measured as either *REM1* or *REM2*, to consider a substitution between accrual-based and real earnings management. Regarding investment-grade groups, I find that the coefficient on *Lagged_Rat_Diff_Ind* is negative but insignificant. This finding is consistent with those reported in Table 12. For speculative-grade groups, I find a positive and significant coefficient on *Lagged_Rat_Diff_Ind*. These findings suggest that speculative-grade firms more affected by ratings conservatism engage in less accrual-based earnings management. Furthermore, with respect to speculative-grade firms, the coefficient on either *REM1* or *REM2* is negative and significant, suggesting that there is a substitution between real and accrual-based earnings management.

Finally, I perform the equality of coefficients on *Lagged_Rat_Diff_Ind* between investment- and speculative-grade subsamples. At the bottom of Table 13, I report that the chi-square statistics are 8.37 (*p-value*=0.004), 7.69 (*p-value*=0.006), and 7.61 (*p-value*=0.006), respectively. These results suggest that both coefficients on *Lagged_Rat_Diff_Ind* between two groups are different from each other.

[Please insert Table 13 here]

Overall, the results from Tables 12 and 13 demonstrate that the negative relation between ratings conservatism and accrual-based earnings management does not apply to investment-grade firms. In other words, I find no evidence of the negative relation between them for the investment-grade group. Regarding accrual-based earnings management, these findings indicate that the negative relation is more pronounced for speculative-grade firms than for investment-grade firms, supporting my second hypothesis (H2).

5.6 Investment- and Speculative-Grade Firms (Real earnings management): Testing H2

In this subsection, I examine whether the negative relation between ratings conservatism and real earnings management varies across investment- and speculative-grade issuers. To do this, I divide my sample firms into two subsamples: one includes investment-grade (IG) firms and the other includes speculative-grade (SG) firms. With respect to real earnings management, I use two aggregate measures, *REM1* and *REM2*, to test the second hypothesis (H2).

Table 14 shows the results of the pooled OLS regression with a dependent variable, *REM1*. In the first columns (1) to (4), I use the ratings conservatism measure, *Lagged_Rat_Diff_Firm*. Furthermore, in the latter columns (5) to (8), I use another ratings conservatism measure, *Lagged_Rat_Diff_Ind*.

In column (1), the coefficient on *Lagged_Rat_Diff_Firm* is negative but insignificant for the investment-grade group. The coefficient on *Leverage* is positive and significant (*p-value*=0.042), indicating that highly leveraged investment-grade firms engage in more real earnings management. The coefficient on *MTB* is negative and significant, suggesting that investment-grade firms with high growth opportunities engage in less real earnings management. The coefficient on *ROA* is negative and significant, indicating that investment-grade firms with high return on assets engage in less real earnings management. The coefficient on *Z_Score* is positive and significant, while the coefficients on *Loss* and *Restruct* are negative and significant. In column (2), the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant for the speculative-grade group. The result suggests that speculative-grade firms more affected by ratings conservatism engage in more real earnings management. In column (3), I find a positive but insignificant coefficient on *Lagged_Rat_Diff_Firm*. In contrast, the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant (*p-value*=0.050) in column (4) for speculative-grade firms. Furthermore, in column (4), the coefficient on *ABS_DA* is negative and significant.

On the other hand, in column (5), the coefficient on *Lagged_Rat_Diff_Ind* is positive but insignificant. In column (6), the coefficient on *Lagged_Rat_Diff_Ind* is positive and significant (*p-value*=0.050), suggesting that ratings conservatism increases real earnings management for speculative-grade firms. Whereas the coefficient on *Lagged_Rat_Diff_Ind* is positive but insignificant in column (7), the coefficient on *Lagged_Rat_Diff_Ind* in column (8) is positive and significant. Furthermore, in column (8), the coefficient on *ABS_DA* is negative and significant.

Finally, I perform the equality of coefficients on either *Lagged_Rat_Diff_Firm* or *Lagged_Rat_Diff_Ind* between investment- and speculative-grade subsamples. At the bottom of Table 14, I report that the chi-square statistics are 0.21 (*p-value*=0.647), 0.16 (*p-value*=0.694), 0.27 (*p-value*=0.603), and 0.19 (*p-value*=0.662), respectively. These results suggest that both coefficients on *Lagged_Rat_Diff_Ind* between two groups are not different from each other.

[Please insert Table 14 here]

Table 15 shows the results of the pooled OLS regression with a dependent variable, *REM2*. In the first columns (1) to (4), I use the ratings conservatism measure, *Lagged_Rat_Diff_Firm*. Furthermore, in the latter columns (5) to (8), I use the ratings conservatism measure, *Lagged_Rat_Diff_Ind*.

Similar to the results found in Table 14, in columns (1) and (3), I find a positive but insignificant for investment-grade firms. Likewise, in columns (2) and (4), I find a positive and significant coefficient on *Lagged_Rat_Diff_Firm*, suggesting that ratings conservatism increases real earnings management for speculative-grade firms. On the other hand, in columns (4) to (8), I find that the coefficients on *Lagged_Rat_Diff_Ind* are positive but insignificant. In addition, the coefficients on *ABS_DA* are positive and significant in columns (3) and (7), while the coefficients on *ABS_DA* are negative and significant in columns (4) and (8).

Finally, I perform the equality of coefficients on either *Lagged_Rat_Diff_Firm* or *Lagged_Rat_Diff_Ind* between investment- and speculative-grade subsamples. At the bottom of Table 15, I report that the chi-square statistics are 0.16 (*p-value*=0.691), 0.10 (*p-value*=0.750), 0.11 (*p-value*=0.741), and 0.05 (*p-value*=0.819), respectively. These results suggest that both coefficients on *Lagged_Rat_Diff_Ind* between two groups are not different from each other.

[Please insert Table 15 here]

Overall, the results from Tables 14 and 15 suggest that the positive relation between ratings conservatism and real earnings management does not apply to both investment- and speculative-grade firms. In other words, I find no evidence of the positive relation between them for both groups. Regarding real earnings management, these findings are inconsistent with the second hypothesis that the positive relation is more pronounced for speculative-grade firms than for investment-grade firms.

CHAPTER 6

POTENTIAL SAMPLE SELECTION BIAS

The results reported in Tables 6 through 11 indicate that ratings conservatism leads to a trade-off between real and accrual-based earnings management. In this section, I consider the possibility of sample selection bias that a firm's decision to manage its reported earnings via earnings management are not exogenous (Cohen and Zarowin, 2010; Zang, 2012; Chan et al., 2015). This sample selection bias lead to biased ordinary least squares (OLS) estimates (Wooldridge, 2002). Following Cohen and Zarowin (2010) and Zang (2012), I use the two-stage model proposed by Heckman (1979) to correct for a firm's self-selection to manage earnings through earnings management. In the first stage, I estimate the following probit regression model:[34]

$$
\begin{aligned}
Prob\,[Suspect\_EM_{it} = 1] = Probit\,(&\beta_0 + \beta_1 \boldsymbol{Ratings\_Conservatism_{it\text{-}1}} + \beta_2 Size_{it} \\
&+ \beta_3 Leverage_{it} + \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 Shares_{it} \\
&+ \Sigma\, \beta_k Year_k + \varepsilon_{it}).
\end{aligned} \tag{9}
$$

The dependent variable, *Suspect_EM*, is an indicator variable that equals to one if either real earnings management proxies (either *REM1* or *REM2*) or accrual-based earnings management proxies are above the industry-year median, and zero otherwise. All explanatory variables, except for *Shares*, are defined in Appendix B. *Shares* is the natural logarithm of the number of shares

[34] Due to the limited data availability, I do not estimate the probit model (9) after controlling for variables associated with financial analysts, including the number of times beating/meeting financial analysts' forecast consensus and the number of financial analysts following the firm (see, for example, Cohen and Zarowin, 2010; Zang, 2012). Instead, I control for firm characteristics, such as size, leverage, market-to-book ratios, and return on assets. In my future study, I further need to re-estimate the probit model after including these variables related to financial analysts.

outstanding. In addition, I control for year fixed effects in the model. In the second stage, I obtain the inverse Mills ratio (*IMR*) estimated from equation (9).[35] I then re-estimate the regression model (8) after including the *IMR* as a control variable in order to control for a firm's decision to manage its reported earnings.

Table 16 shows the results of the pooled OLS regression using each earnings management proxy as a dependent variable. For brevity, I only present the coefficients on *Lagged_Rat_Diff_Firm*, *Lagged_Rat_Diff_Ind*, *REM1*, *REM2*, and *IMR*. The results are qualitatively similar to those reported in Tables 6 through 10. In other words, ratings conservatism increases real earnings management and decreases accrual-based earnings management. Furthermore, I find that the coefficient on the *IMR* is insignificant in all columns. The significance of the coefficient on the *IMR* is used in evaluating the presence or absence of sample selection bias (Lenox et al., 2012). In my analysis, the statistical insignificance of the coefficient on the *IMR* indicates no selection bias. However, due to the possibility or presence of multicollinearity, the insignificant coefficient on the *IMR* does not necessarily indicate that there is no selection bias (Lenox et al., 2012).

[Please insert Table 16 here]

[35] The inverse Mills ratio (*IMR*) is given by $\lambda(c) \equiv \phi(c)/\Phi(c)$ for any c. The ϕ is the probability density function of the standard normal distribution. The Φ is the cumulative distribution function of the standard normal distribution (Wooldridge, 2002).

CHAPTER 7

ADDITIONAL ANALYSES

7.1 Ratings Conservatism and Earnings Smoothing (EM_SMOOTH)

Beidleman (1973, p. 653) defines earnings smoothing (also known as income smoothing) as "the intentional dampening of fluctuations about some level of earnings that is currently considered to be normal for a firm." Earnings smoothing is a particular form of earnings management. The motivation for managers to smooth their reported earnings is clear. For example, prior research argues that investors consider firms with less volatile earnings as less risky because the firms have the potential to generate future cash flows (Minton and Schrand, 1999; Rountree et al., 2008). Furthermore, Graham et al. (2005) conduct a survey and interview with chief financial officers (CFOs) to identify determinants of reported earnings and disclosure decisions. Their study suggests that about 96.9% of survey participants feel that they prefer to smooth earnings. Specifically, Graham et al. (2005) asked survey questions regarding the motivations for earnings smoothing. The main motivation is that 88.7% of survey participants responded that investors recognize a firm's smoother earnings as less risky. The second motivation is that 79.7% of the participants feel that earnings smoothing enables financial analysts and investors to easily predict future earnings. In this section, I investigate the relation between ratings conservatism and earnings smoothing. To do this, I attempt to answer the following research question: Does ratings conservatism make managers engage in more or less earnings smoothing?

In my empirical analysis, I use three well-known measures of earnings smoothing to capture managers' incentives to smooth their reported earnings. First, following Leuz et al. (2003), Francis et al. (2004), and Myers et al. (2007), I measure earnings smoothness as the ratio of standard deviation of earnings (*Earnings*) to standard deviation of cash flow from operations (*CFO*), calculated using *Earnings* and *CFO* from *t* to *t*+3. The first measure of earnings smoothing (denoted as *EM_SMOOTH1*) is represented as

$$EM\_SMOOTH1 = Rank\left(\frac{\sigma(Earnings)}{\sigma(CFO)}\right) \tag{10}$$

where σ denotes the standard deviation. Both earnings and cash flow from operations are deflated by lagged total assets. The smaller ratios indicate a higher degree of earnings smoothing. For easy interpretation, I use earnings smoothing ranking of *σ(Earnings)/σ(CFO)*. To do so, I follow Zarowin (2002) and convert the correlation, *σ(Earnings)/σ(CFO)*, into reverse fractional ranking by each two-digit SIC industry and year group.[36] Thus, firms with the lower ratio of standard deviation of earnings (*Earnings*) to standard deviation of cash flow from operations have a higher earning-smoothing ranking.

Second, I follow Bhattacharya et al. (2003), Leuz et al. (2003), Burgstahler et al. (2006), and Myers et al. (2007) to measure earnings smoothing. The second measure is calculated as the Spearman correlation between the change in total accruals (*ACC*) and

[36] To control for industry and time effects, Zarowin (2002) computes reverse fractional ranking by each two-digit SIC industry and year group. For example, *EM_SMOOTH1* = (rank-1)/ ((number of firms within industry-year) -1). As a result, this measure ranges from 0 to 1 by industry-year.

the change in cash flow from operations (*CFO*), both scaled by lagged total assets.[37] I calculate the correlation using *ACC* and *CFO* from *t* to *t*+3. The second measure of earnings smoothing (denoted as *EM_SMOOTH2*) is given by

$$EM\_SMOOTH2 = Rank(\rho(\Delta ACC, \Delta CFO)) \tag{11}$$

where ρ denotes the Spearman correlation coefficient, and ΔACC and ΔCFO represent the change in total accruals and the change in cash flow from operations, respectively. A larger negative correlation between the change in total accruals and the change in cash flow from operations indicates a greater degree of earnings smoothing. As in the first measure, for easy interpretation,

I use earnings smoothing ranking of $\rho(\Delta ACC, \Delta CFO)$. Following Tucker and Zarowin (2006), I convert the correlation into reverse fractional ranking by two-digit SIC industry and year. As a result, firms with a more negative correlation have a higher earning-smoothing ranking.

Finally, I follow Tucker and Zarowin (2006) and generate the third measure of earnings smoothing. As Zarowin (2002) points out, the second measure for earnings smoothing captures non-discretionary accruals. Thus, I decompose total accruals into two components, discretionary accruals (*DA*) and non-discretionary accruals (*NDA*). To estimate discretionary accruals (*DA*), as in Tucker and Zarowin (2006), I use the cross-sectional Jones (1991) model modified by Kothari et al. (2005). The third measure is

[37] In a similar way, several prior studies (Lang et al., 2006; LaFond et al., 2007; Barth et al., 2008) measure earnings smoothing as the correlation between the total accruals and the cash flow from operations.

calculated as the Spearman correlation between the change in discretionary accruals (*DA*) and the change in pre-discretionary income (*PDI*), both scaled by lagged total assets. As in previous measures, I calculate the correlation using *DA* and *PDI* from *t* to *t*+3. The third measure of earnings smoothing (denoted as *EM_SMOOTH3*) is given by

$$EM\_SMOOTH3 = Rank(\rho(\Delta DA, \Delta PDI)) \qquad (12)$$

where ρ denotes the Spearman correlation coefficient, ΔDA and ΔPDI represent the change in discretionary accruals and the change in pre-discretionary income, respectively. A more negative correlation between the change in discretionary accruals and the change in pre-discretionary accruals demonstrates a greater degree of earnings smoothing. To control for industry and time effects, I follow Tucker and Zarowin (2006) and use reverse fractional ranking by two-digit SIC industry for the third earnings smoothing measure. Accordingly, a more negative correlation indicates a higher earning-smoothing ranking.

To investigate the effect of ratings conservatism on a firm's earnings smoothing, I estimate the following regression model:

$$\begin{aligned}\boldsymbol{EM\_SMOOTH_{it}} = {} & \beta_0 + \beta_1 \boldsymbol{Ratings\_Conservatism_{it-1}} + \beta_2 Size_{it} + \beta_3 Leverage_{it} \\ & + \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 Firm\_Age_{it} + \beta_7 Big4_{it} + \beta_8 SOX_{it} \\ & + \beta_9 Z\_Score_{it} + \beta_{10} Loss_{it} + \beta_{11} NOA_{it} + \beta_{12} M\&A_{it} + \beta_{13} Restruct_{it} \\ & + \Sigma\, \beta_j Industry_j + \Sigma\, \beta_k Year_k + \varepsilon_{it}, \qquad (13)\end{aligned}$$

where EM_SMOOTH_{it} denotes the measures of earnings smoothing of firm *i* in year *t*. EM_SMOOTH_{it} denotes three measures, *EM_SMOOTH1*, *EM_SMOOTH2,* and

EM_SMOOTH3. As in equation (8), the main variable of interest is *Ratings_Conservatism*, specifically *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. Likewise, all other variables are the same as those in equation (8). All earnings smoothing measures and other variables are defined in Appendix B.

Table 17 shows the results of the pooled OLS regression with each dependent variable, *EM_SMOOTH1*, *EM_SMOOTH2*, and *EM_SMOOTH3*. As in previous analyses, the variables of interest are *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. The coefficients on *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*, respectively, are insignificant in all columns.[38]

[Please insert Table 17 here]

Overall, I find no evidence that firms more affected by ratings conservatism tend to engage in either more or less earnings smoothing.

7.2 Ratings Conservatism and Asymmetric Timely Loss Recognition[39]

As an additional analysis, I examine the relation between ratings conservatism and asymmetric timely loss recognition. To do this, I seek to answer the following question: Do firm mangers adjust timely loss recognition in response to ratings conservatism? Asymmetric timely loss

---

[38] Instead of using reverse fractional ranking by each two-digit SIC industry and year group, I also use the original values of *σ(Earnings)/σ(CFO)*, *ρ(ΔACC, ΔCFO)*, and *ρ(ΔDA, ΔPDI)* and repeat the analysis. I obtain qualitatively similar results. Instead of calculating *σ(Earnings)/σ(CFO)*, *ρ(ΔACC, ΔCFO)*, and *ρ(ΔDA, ΔPDI)* using the period from *t* to *t*+3, I further employ different periods, e.g., contemporaneous period *t*, from t to *t*+1, and from t to *t*+2 and repeat the analysis. Similarly, I find no evidence of earnings smoothing in response to ratings conservatism.

[39] Both asymmetric timely loss recognition and conditional accounting conservatism are interchangeably used in accounting research. Asymmetric timely loss recognition is one of the important earnings attributes that derives from conditional accounting conservatism (see, for example, Francis et al. (2004) for a discussion).

recognition, also known as conditional accounting conservatism, is an important attribute of financial reporting (Basu, 1997; Ball et al., 2000; Francis et al., 2004; Ball et al., 2005; Roychowdhury Watts, 2007; Gormley et al., 2012).

In the analysis, I use three measures of asymmetric timeliness loss recognition to test my research question. First, the measure of conditional accounting conservatism is Basu's (1997) asymmetric timeliness measure. The Basu's (1997) specification that captures asymmetric timeliness is as follows:

$$NI_i = \beta_1 + \beta_2 D_i + \beta_3 RET_i + \beta_4 D_i * RET_i + \varepsilon_i \tag{14}$$

where the subscript *i* indicates the firm, *NI* is annual earnings, *RET* is the buy-and-hold returns over the year, and *D* is an indicator variable equal to one if $RET<0$ and zero otherwise. β_3 is the timeliness measure of positive returns (or good news). β_4 is the measure of incremental timeliness for negative returns (or bad news). The total timeliness measure of negative returns is $\beta_3 + \beta_4$. The main coefficient of interest is β_4 that captures symmetric timely loss recognition. To test the effect of ratings conservatism on asymmetric timely loss recognition, I follow LaFond and Roychowdhury (2008) and estimate the following regression equation:

$$\begin{aligned} NI_{it} = {} & \beta_0 + \beta_1 D_{it} + \beta_2 Ratings\_Conservatism_{it-1} + \beta_3 Size_{it} + \beta_4 Leverage_{it} \\ & + B_5 MTB_{it} + \beta_6 LIT_{it} + \beta_7 D_{it}*Ratings\_Conservatism_{it-1} + \beta_8 D_{it}*Size_{it} \\ & + \beta_9 D_{it}*Leverage_{it} + \beta_{10} D_{it}*MTB_{it} + \beta_{11} D_{it}*LIT_{it} \\ & + \beta_{12} RET_{it} + \beta_{13} RET_{it}*Ratings\_Conservatism_{it-1} + \beta_{14} RET_{it}*Size_{it} \end{aligned}$$

$$+\beta_{15}RET_{it}*Leverage_{it} + \beta_{16}RET_{it}*MTB_{it} + \beta_{17}RET_{it}*LIT_{it}$$
$$+ \beta_{18}D_{it}*RET_{it} + \boldsymbol{\beta_{19}D_{it}*RET_{it}*Ratings\_Conservatism_{it\text{-}1}}$$
$$+ \beta_{20}D_{it}*RET_{it}*Size_{it} + \beta_{21}D_{it}*RET_{it}*Leverage_{it} + \beta_{22}D_{it}*RET_{it}*MTB_{it}$$
$$+ \beta_{23}D_{it}*RET_{it}*LIT_{it} + \Sigma\,\beta_j Industry_j + \Sigma\,\beta_k Year_k + \varepsilon_{it}, \quad (15)$$

where variables *NI*, *D*, and *RET* are previously defined. I control for industry and year fixed effects in equation (15). Following LaFond and Roychowdhury (2008) and Ahmed and Duellman (2013), I measure all control variables, except *LIT*, as decile ranks in the equation. All variables are defined in Appendix B.

Second, I follow Ball and Shivakumar (2005) to capture the differential timeliness of gains and loss recognition. Their method is based on the correlation between accruals and contemporaneous cash flows. Ball and Shivakumar's (2005) specification for capturing asymmetric timeliness is as follows:

$$ACC_i = \beta_1 + \beta_2 DCFO_i + \beta_3 CFO_i + \beta_4 DCFO_i * CFO_i + \varepsilon_i \quad (16)$$

where the subscript *i* indicates the firm, *ACC* is total accruals, calculated as net income before extraordinary items minus operating cash flows scaled by lagged total assets , *DCFO* is an indicator variable equal to one if *CFO*<0 and zero otherwise, and *CFO* is operating cash flows. β_4 is the measure of asymmetric timeliness for loss recognition. That is, a positive coefficient on *DCFO* * *CFO* indicates greater conditional accounting conservatism. Based on the method developed by Ball and Shivakumar (2005), I estimate the following modified regression equation:

$$
\begin{aligned}
ACC_{it} = {} & \beta_0 + \beta_1 DCFO_{it} + \beta_2 CFO_{it} + \beta_3 DCFO_{it} * CFO_{it} + \beta_4 Ratings\_Conservatism_{it\text{-}1} \\
& + \beta_5 DCFO_{it} * Ratings\_Conservatism_{it\text{-}1} + \beta_6 CFO_{it} * Ratings\_Conservatism_{it\text{-}1} \\
& + \boldsymbol{\beta_7 DCFO_{it} * CFO_{it} * Ratings\_Conservatism_{it\text{-}1}} + \beta_8 Size_{it} + \beta_9 DCFO_{it} * Size_{it} \\
& + \beta_{10} CFO_{it} * Size_{it} + \beta_{11} DCFO_{it} * CFO_{it} * Size_{it} + \beta_{12} Leverage_{it} \\
& + \beta_{13} DCFO_{it} * Leverage_{it} + \beta_{14} CFO_{it} * Leverage_{it} + \beta_{15} DCFO_{it} * CFO_{it} * Leverage_{it} \\
& + \beta_{16} MTB_{it} + \beta_{17} DCFO_{it} * MTB_{it} + \beta_{18} CFO_{it} * MTB_{it} + \beta_{19} DCFO_{it} * CFO_{it} * MTB_{it} \\
& + \beta_{20} LIT_{it} + \beta_{21} DCFO_{it} * LIT_{it} + \beta_{22} CFO_{it} * LIT_{it} + \beta_{23} DCFO_{it} * CFO_{it} * LIT_{it} \\
& + \Sigma\, \beta_j Industry_j + \Sigma\, \beta_k Year_k + \varepsilon_{it}, \qquad (17)
\end{aligned}
$$

where all variables are previously defined. I control for industry and year fixed effects in equation (17).

Finally, I use the *C_Score* developed by Khan and Watts (2009) to capture asymmetric timeliness loss recognition.[40] To test the relation between ratings conservatism and asymmetric timeliness loss recognition, I estimate the following pooled OLS regression for the sample period from 1997 to 2014. The pooled OLS regression model is as follows:

$$
\begin{aligned}
C\_Score_{it} = {} & \beta_0 + \boldsymbol{\beta_1 Ratings\_Conservatism_{it\text{-}1}} + \beta_2 Size_{it} + \beta_3 Leverage_{it} \\
& + \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 Firm\_Age_{it} + \beta_7 Sales\_Growth_{it} \\
& + \beta_8 Rd\_Adv_{it} + \beta_9 LIT_{it} + \beta_{10} Big4_{it} + \beta_{11} CFO_{it} \\
& + \Sigma\, \beta_j Industry_j + \Sigma\, \beta_k Year_k + \varepsilon_{it}, \qquad (18)
\end{aligned}
$$

[40] See Appendix C for more details.

where *C_Score* represents the measure of asymmetric timeliness loss recognition. Larger values of *C_Score* exhibit greater timely loss recognition, indicating greater conditional conservatism. I also use cluster-robust standard errors at the firm level. The main explanatory variable of interest is *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. Following prior research (Ahmed and Duellman, 2007, 2013; Roychowdhury and Watts, 2007; LaFond ad Roychowdhury 2008; LaFond and Watts 2008; Goh and Li 2011), I control for firm size (*Size*), leverage (*Leverage*), market-to-book ratio (*MTB*), return on assets (*ROA*), firm age (*Firm_Age*), (*Sales_Growth*), research and development (R&D) and advertising expenditures (*Rd_Adv*), litigation indicator (*LIT*), Big 4 auditor (*Big4*) indicator, and operating cash flows (*CFO*). Finally, I control for year and industry effects (Givoly et al., 2007). All variables are defined in Appendix B.

Table 18 shows the results of the pooled OLS regression with three measures of asymmetric timeliness loss recognition as each dependent variable. In columns (1) and (2), I use *NI* as a dependent variable. The variables of interest are *D*RET*Lagged_Rat_Diff_Firm* and *D*RET*Lagged_Rat_Diff_Ind*, respectively. I find no evidence of ratings conservatism on asymmetric timely loss recognition as the coefficients on both *D*RET*Lagged_Rat_Diff_Firm* and *D*RET*Lagged_Rat_Diff_Ind* are insignificant. In columns (3) and (4), I use *ACC* as a dependent variable. I find mixed results regarding the relation between ratings conservatism and accrual-based loss recognition. That is, the coefficient on *DCFO*CFO*Lagged_Rat_Diff_Firm* is insignificant, while the coefficient on *DCFO*CFO*Lagged_Rat_Diff_Ind* is positive and significant (*p-value*=0.005). Finally, in columns (5) and (6), I use *C_Score* as a dependent variable. I find that the coefficient on *Lagged_Rat_Diff_Firm* is positive and significant (*p-value*=0.096). Likewise, the coefficient on *Lagged_Rat_Diff_Ind* is positive and significant (*p-value*=0.017). Taken together, these results exhibit less asymmetric timely loss recognition, indicating lower conditional accounting conservatism.

[Please insert Table 18 here]

Overall, I find inconsistent results regarding the relation between ratings conservatism and each measure of asymmetric timeliness loss recognition.

CHAPTER 8

ROBUSTNESS TESTS

8.1 Alternative Measures of Accrual-Based Earnings Management

In my main analysis, I use the absolute value of discretionary accruals calculated from equations (3) and (4) as a proxy for accrual-based earnings management. In this subsection, I also use four alternative measures of accrual-based earnings management as robustness tests. The reason I use these alternative measures of discretionary accruals is to mitigate measurement errors arising from the modified Jones (1991) model. First, as in Cohen et al. (2008), I replace equation (3) with the following equation (19):

$$\frac{TA_{it}}{AT_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{AT_{it-1}} + \alpha_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{AT_{it-1}} + \alpha_3 \frac{PPE_{it}}{AT_{it-1}} + \epsilon_{it}, \tag{19}$$

I then take the same approach as in subsection 3.2.1 to calculate discretionary accruals.

Table 19 shows the results using an alternative measure of accrual-based earnings management based on discretionary accruals proposed by Cohen et al. (2008). The results are qualitatively similar to those reported in Tables 6 through 11. Firms more affected by ratings conservatism engage in more real earnings management and less accrual-based earnings management.

[Please insert Table 19 here]

Second, following Chen et al. (2008) and Francis and Yu (2009), I use the performance-adjusted Jones model. For example, Kothari et al. (2005) claim that the modified Jones (1991) model proposed by Dechow et al. (1995) is likely to be misspecified by sample firms with extreme performance. To mitigate the misspecification concern, I follow Kothari et al. (2005) and include lagged return on assets (*ROA*) as follows:

$$\frac{TA_{it}}{At_{it-1}} = \gamma_0 + \gamma_1 \frac{1}{At_{it-1}} + \gamma_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{At_{it-1}} + \gamma_3 \frac{PPE_{it}}{At_{it-1}} + \gamma_4 ROA_{it-1} + \varepsilon_{it.} \quad (20)$$

I obtain coefficients estimated from the above regression for each two-digit SIC industry and year. I then use the estimated coefficients from the equation (20) to compute non-discretionary accruals as follows:

$$NDA_{it} = \hat{\gamma}_0 + \hat{\gamma}_1 \frac{1}{At_{it-1}} + \hat{\gamma}_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{At_{it-1}} + \hat{\gamma}_3 \frac{PPE_{it}}{At_{it-1}} + \hat{\gamma}_4 ROA_{it-1}.$$

The variables, *TA*, *REV*, *AR*, *PPE*, and *AT*, are defined in subsection 3.2.1. *ROA* is measured as income before extraordinary items scaled by lagged total assets. Finally, I obtain performance-adjusted discretionary accruals by computing the difference between total accruals ($\frac{TA_{it}}{At_{it-1}}$) and non-discretionary accruals (NDA_{it}). All variables are winsorized at the 1% and 99% levels. I repeat previous analyses using the absolute value of performance-adjusted discretionary accruals.

Table 20 reports the results using another measure of accrual-based earnings management based on the discretionary accruals proposed by Chen et al. (2008) and Francis and Yu (2009). In general, the results are qualitatively similar to those in Tables 6 through 11.

[Please insert Table 20 here]

Third, I use performance-matched discretionary accruals suggested by Kothari et al. (2005) as an alternative proxy for accrual-based earnings management. Specifically, Kothari et al. (2005) propose an accrual-based measure to control for the effect of firm performance on discretionary accruals. The procedure for obtaining discretionary accruals is same as in subsection 3.2.1. Next, I adjust the discretionary accruals for performance matching based on the two-digit SIC industry, year, and current year's *ROA*.[41] I then compute performance-matched discretionary accruals as the difference between the Jones model discretionary accruals in year *t* and the discretionary accruals of the matched firm in year *t*. In the analysis, I use the absolute value of performance-matched discretionary accruals (*ABS_PMDA*) as an alternative proxy for accrual-based earnings management.

Table 21 reports the results using the performance-matching discretionary accruals proposed by Kothari et al. (2005). In general, the results are qualitatively similar to those in Tables 6 through 11.

[Please insert Table 21 here]

[41] Instead of using the current year's *ROA*, I further match each firm-year observation with another using the two-digit SIC industry, year, and previous year's *ROA*. I then calculate performance-matched discretionary accruals and repeat our main analysis using the proxy.

Finally, I use the Dechow and Dichev (2002) cash flow models to develop an accrual-based measure with respect to working capital accruals and cash flows. The model is as follows:

$$\Delta WC_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \epsilon_{it}, \quad (21)$$

where ΔWC_{it} is the change in working capital accruals from fiscal year *t*-1 to *t* for firm *i*. Following Dechow and Dichev (2002), I measure ΔWC_{it} as the increase in accounts receivable plus the increase in inventory plus the decrease in accounts payable and accrued liabilities plus decrease in taxes accrued plus the increase (decrease) in other assets and liabilities, scaled by lagged total assets.[42] $CFO_{it+\tau}$ is the cash flow from operations for firm *i* and fiscal year t+τ (τ = −1, 0, 1). All variables are standardized by average total assets. Using equation (21), I estimate a cross-sectional regression for each two-digit SIC industry and year group. Consistent with Jones et al. (2008), I measure abnormal working capital accruals (*AWCA*) using the coefficients estimated from equation (21). Abnormal working capital accruals are calculated as the difference between the actual working capital and the fitted normal working capital. As in Wiedman and Hendricks (2013), I use the absolute value of abnormal working capital accruals (*ABS_AWCA*) as an alternative proxy for accrual-based earnings management.[43] The

[42] Specifically, the change in working capital *(*Δ*WC*) is calculated as follows: – (Compustat Item #302 + Compustat Item #303 + Compustat Item #304 + Compustat Item #305 + Compustat Item #307).

[43] Dechow and Dichev (2002) use the standard deviation of abnormal working capital accruals (*AWCA*) as a proxy for working capital accruals quality. Wiedman and Hendricks (2013) claim that the absolute value of abnormal working capital accruals is "a useful alternative measure when a firm-year level measure is required."

larger values of *ABS_AWCA* indicate more accrual-based earnings management, which implies lower accrual quality.

Table 22 reports the results using the abnormal working capital accruals proposed by Dechow and Dichev (2002). The results are qualitatively similar to those in Tables 6 through 11.

[Please insert Table 22 here]

Overall, my main results reported in Tables 6 through 11 are robust to alternative measures of accrual-based earnings management based on those proposed by prior studies.

8.2 Using Alternative Industry Classifications When Calculating Ratings Conservatism and Earnings Management Proxies

So far, I measure ratings conservatism and earnings management using two-digit SIC industry groups. Specifically, regarding proxies for ratings conservatism, I estimate the predicted ratings, one based on industry fixed effects (e.g., including dummies for a two-digit SIC industry) and one based on firm fixed effects. After subtracting predicted ratings from actual ratings, I obtain two ratings conservatism proxies. I further estimate cross-sectional regressions for each two-digit SIC industry and year group to calculate discretionary accruals, the abnormal level of cash flow from operations, the abnormal level of production costs, and the abnormal level of discretionary expenses. Finally, I control for industry fixed effects using dummies for two-digit SIC industry groups when conducting my main analysis.[44]

In this subsection, instead of using the two-digit SIC industry, I also consider alternative industry classifications such as a three-digit SIC industry and Fama and French's (1997) 48-industry classifications as robustness checks. Specifically, following Baghai et al. (2014), I re-estimate ratings model based on the three-digit SIC industry and measure a ratings conservatism proxy (denoted as *Rat_Diff_Ind_1*) that consider industry fixed effects. To maintain consistent industry classifications, I also re-calculate earnings management proxies based on each three-digit SIC industry and year. Finally, I repeat my main analyses using proxies for ratings conservatism and earnings management based on three-digit SIC industry groups. In the analysis, I further consider industry fixed effects using the three-digit SIC industry to control for industry-specific characteristics affecting earnings management.

Table 23 presents the results of pooled OLS regression based on three-digit SIC industry groups. The results are qualitatively similar to those reported in the main tables.

[Please insert Table 23 here]

Similarly, I repeat the above procedure using the Fama and French's (1997) 48-industry classifications.[45] In untabulated results, I obtain qualitatively similar results to those reported in main Tables 6 through 15.

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[44] In other words, my analyses through this paper is consistently based on two-digit SIC industry groups.

[45] For example, several prior studies, including Francis et al. (2005), Biddle et al. (2009), and Marquardt and Zur (2015), estimate discretionary accruals in a given year based on the Fama and French's (1997) 48-industry classifications.

8.3 Alternative Cut-Off Years Employed When Measuring Ratings Conservatism[46]

This subsection checks whether my main findings reported earlier are robust to alternative cut-off years when measuring ratings conservatism. In previous analyses, I use two ratings conservatism measures developed by Baghai et al. (2014) to examine how ratings conservatism influences a firm's earnings management. As mentioned earlier, Baghai et al. (2014) measure ratings conservatism as the difference between a firm's actual ratings and their predicted ratings. They estimate a firm's predicted ratings for the period 1997 to 2009 using the ratings model estimated for the period 1985 to 1996. In addition to these cut-off years, I further employ alternative cut-off years from 1994 to 2003. For example, I employ the ratings model estimated for the period 1985 to 1997, 1985 to 1998, 1985 to 1999, and so on in order to predict ratings for the period of 1998 to 2014, 1999 to 2014, 2000 to 2014, and so on, respectively.

Table 24 reports the results using alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1998 to 2014, I employ the ratings model estimated for the period 1985 to 1997. Table 24 shows that, in general, the results are

[46] To predict ratings over the period 1997 to 2009, Baghai et al. (2014) estimate ratings models using the period 1985 to 1996. They then use the parameters estimated from the ratings models for the period 1985 to 1996 in order to obtain predicted ratings for the period 1997 to 2009. Finally, they measure ratings conservatism as the difference between a firm's actual ratings and predicted ratings. The issue arising from the estimation of ratings models is due to an assumption that estimated parameters are constant over the period 1997 to 2009. Baghai et al. (2014) assume that estimated parameters are constant over the period 1997 to 2009. In my empirical analysis, to relax the assumption of constant estimated parameters, it is used a moving window instead of using the period 1985 to 1996 when estimating a firm's predicted ratings for the period 1997 to 2014. Specifically, for year t where t >1996, one can conduct recursive regressions and estimate parameters using the period from 1986 to t-1. Then, for each year, one predicts a firm's ratings using the parameters estimated from the models that consider a moving window. In this way, one measures ratings conservatism and repeat previous analyses. This modified method may accurately reflect time-variant firm characteristics in constructing ratings models. I further need to address relevant issues associated with a proxy for ratings conservatism.

qualitatively similar to those reported in Tables 6 through 11. Specifically, with respect to accrual-based earnings management measured as *ABS_DA*, the coefficient on *Lagged_Rat_Diff_Firm* (*Lagged_Rat_Diff_Ind*) is negative and significant before (after) controlling for *REM1* and *REM2*, respectively. In contrast, the coefficient on *REM1* (*REM2*) is positive and significant both before and after controlling for *ABS_DA*. Further, the relation between *ABS_DA* and *REM1* (*REM2*) is negative and significant. These findings confirm my first hypothesis that ratings conservatism leads to less accrual-based earnings management, but greater real earnings management.

[Please insert Table 24 here]

Table 25 presents the results using alternative cut-off years for measuring ratings conservatism. To do so, I employ the ratings model estimated for the period 1985 to 1998 in order to predict ratings for the period 1999 to 2014. The findings are qualitatively similar to those reported in the main tables.

[Please insert Table 25 here]

Overall, my main findings presented in Tables 6 through 11 are robust to alternative cut-off years employed when I measure ratings conservatism.[47]

8.4 Controlling for the Effect of the Global Financial Crisis of 2007-2008

It is a possibility that external events such as the Global Financial Crisis of 2007 to 2008 bias estimates on the relation between ratings conservatism and earnings management. To address

[47] In addition to these cut-off years, I also repeat analyses using alternative cut-off years from 1999 to 2002. The results, not reported for the sake of brevity, are qualitatively similar to my main findings.

this possibility, I re-estimate the regression equation (8) by controlling for an indicator variable for the Global Financial Crisis of 2007-2008. The indicator variable takes the value of one if the years are 2007 and 2008, and zero otherwise. Table 24 reports the results of pooled OLS regression that control for the effect of external events, i.e., the Global Financial Crisis of 2007-2008. The results are qualitatively similar to those reported in Tables 6 through 11. Thus, my main findings are robust to the effect of external events.

[Please insert Table 26 here]

Furthermore, I repeat the analysis in equation (8) after excluding sample periods of 2007-2008 to mitigate the effect of the Global Financial Crisis on the relation between ratings conservatism and earnings management. The unreported results, for the sake of brevity, are qualitatively similar to those reported in Tables 6 through 11.

8.5 Possibility of Omitted Variable Bias

In this subsection, I check whether my main findings reported in Tables 6 through 11 are robust to omitted variable bias. To mitigate the possibility of omitted variable problems, I re-estimate the regression equation (8) after controlling for operating cycle (*Cycle*), cash flow operations (*CFO*), sales growth (*Sales_Growth*), and a litigation indicator (*LIT*) as well as existing control variables employed in equation.[48] Based on prior studies on earnings management, I include

[48] In addition to these additional variables, I plan on conducting analyses after controlling for corporate governance characteristics (e.g., board size, board independence, board interlocks, CEO/Chair duality, audit committee, foreign institutional ownership, and managerial ownership) that affect a firm's earnings management. The monitoring effectiveness of board of directors and audit committee on managerial actions has been well explored in the accounting and finance literature. Generally, the board of directors is recognized as entities that have the source and ability to effectively monitor managerial decisions (Jensen,

these control variables in equation (8). Specifically, following Cohen et al. (2008) and Zang (2012), I control for operating cycles (*Cycle*).[49] I measure *Sales_Growth* as the percentage of annual growth in total sales. A litigation indicator (*LIT*) is defined in Appendix B.

Table 25 reports the results when I include additional control variables in equation (8). In general, the results are qualitatively similar to those reported in Tables 6 through 11.

[Please insert Table 27 here]

8.6 Re-estimation of the Regression Equation (8)

In this subsection, similar to Baghai et al. (2014), I re-estimate the regression equation (8) using lagged explanatory variables, except for each ratings conservatism proxy lagged by two years, as a robustness check. The lagged variables with two years can mitigate endogeneity problems. The regression model is as follows:

1993; John and Senbet, 1998; Coles et al., 2013). For example, the key functions of board of directors are to monitor and advise (top) management (Coles et al., 2013). Jensen (1993) and John and Senbet (1998) emphasize the role of board of directors in monitoring management and their actions. They argue that the effectiveness of monitoring is determined by composition of board of directors, board independence, and board size. Given the above, in addition to audit committee, the board of directors is an effective monitor of managers on behalf of shareholders because they are more likely to demand higher standards of corporate governance (Gillan and Starks, 2003). Furthermore, following Zang (2012), I plan on conducting analyses by controlling for the percentage of institutional ownership, firms' marginal tax rates, and market shares. For example, prior literature (Bushee, 1998; Roychowdhury, 2006; Zang, 2012) shows that institutional ownership is effective in constraining real earnings management.

[49] As in Cohen et al. (2008), the operating cycle is calculated as $\frac{(AR_{t}+AR_{t-1})/2}{(\frac{SALES}{360})}+\frac{(INVT_{t}+INVT_{t-1})/2}{(\frac{COGS}{360})}$. *AR* is account receivable; *SALES* represents sales; *INVT* represents inventories; and *COGS* represents cost of goods sold.

$$\boldsymbol{REM_{it}} \text{ (or } \boldsymbol{AEM_{it}}) = \beta_0 + \beta_1 \boldsymbol{Ratings\_Conservatism_{it-2}} + \beta_2 Size_{it-1} + \beta_3 Leverage_{it-1} + \beta_4 MTB_{it-1} + \beta_5 ROA_{it-1} + \beta_6 Firm\_Age_{it-1} + \beta_7 Big4_{it-1} + \beta_8 SOX_{it-1} + \beta_9 Z\_Score_{it-1} + \beta_{10} Loss_{it-1} + \beta_{11} NOA_{it-1} + \beta_{12} M\&A_{it-1} + \beta_{13} Restruct_{it-1} + \beta_{14} \boldsymbol{AEM_{it-1}} \text{ (or } \boldsymbol{REM_{it-1}}) + \Sigma \beta_j Industry_j + \Sigma \beta_k Year_k + \varepsilon_{it}, \quad (22)$$

where all variables are defined previously. I further include year and industry dummies (based on a two-digit SIC industry) to control for time and industry specific effects. In addition, I use robust standard errors clustered at the firm level. Untabulated results show that ratings conservatism increases real earnings management, while decrease accrual-based earnings management, which supports my first hypothesis (H1).

8.7 Validity of the Ratings Model[50]

For the robustness of the ratings model described in equation (1), I consider additional specifications provided by Baghai et al. (2014). First, as in Baghai et al. (2014), I re-estimate the ratings model by using only variables employed in Blume et al. (1998). Specifically, Blume et al. (1998) employ the following variables in estimating the ratings model: (i) the operating margin, calculated as the ratio of operating income before depreciation to sales; (ii) the ratio of long-term debt to total assets; (iii) the ratio of total debt to total assets; (iv) the market value of equity; (v) a firm's beta from a market-model regression; (vi) the standard error from the market-model regression; and (vii) a firm's pretax interest coverage, computed as the ratio of sum of operating

[50] I estimate several additional specifications of the ratings model and then repeat analyses using two ratings conservatism proxies based on these specifications of the ratings model.

income after depreciation and interest expenses to interest expenses.[51] Second, I re-estimate the ratings model after including the square and cube terms of all explanatory variables to consider the possibility of nonlinearities of the ratings model. Third, I repeat the ratings model by considering firm size and leverage in terms of market values, not book values. Specifically, I employ book leverage (calculated as the ratio of total debt to book value of assets) and firm size (computed as the logarithm of book value of assets) in equation (1). Instead, I replace these variables expressed in book values with them expressed in market values. Finally, I estimate the ratings model by considering serval macroeconomic variables. These macroeconomic variables includes the following: (i) the inflation rates; (ii) the rates of GDP growth; (iii) the slope of term structure[52]; (iv) the TED spread[53]; (v) the ratio of price to earnings; and (vi) the market volatility index. Untabulated results indicate that our main findings are robust these different specifications for ratings model.

8.8 Role of Accounting Quality in the Assignment of Credit Ratings

In this subsection, I consider the role of accounting quality in the assignment of credit ratings. As mentioned previously, credit rating agencies consider accounting quality in assigning credit ratings (Ashbaugh-Skaife et al., 2006; Jorion et al., 2009; Caton et al., 2011; Bae et al., 2013; Shen and Huang, 2013; Standard & Poor’s, 2015). Ashbaugh-Skaife et al., (2006) provide evidence that credit ratings are positively related to accounting quality, indicating that accounting quality is

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[51] See Blume et al. (1998, p. 1394-1395) for more details on these variables.

[52] The slope of term structure is computed as the difference between the constant-maturity 10-year Treasury bond yield and the constant-maturity three-month T-bill yield.

[53] The TED spread is calculated as the three-month London Interbank Offered Rate (LIBOR) minus the three-month T-bill rate.

considered as one of the important components in rating assignment by ratings agencies.[54] In a subsequent study, Jorion et al. (2009) emphasize the importance of accounting quality in the downward trend in credit ratings over time. They argue that a decline in accounting quality can primarily explain the downward trend in credit ratings. In a more recent study, Bae et al. (2013) argue that after the assignment of initial credit ratings by S&P, firms tend to engage in less accrual-based earnings management.

Thus, I re-estimate the rating model (1) after including accounting quality proxies (e.g., discretionary accruals) and predict ratings. I then calculate ratings conservatism as the difference between a firm's actual ratings and predicted ratings. Finally, I repeat the analysis using the ratings conservatism proxies to check the robustness of the main results reported in Tables 6 through 15.

[54] In contrast, the following studies argue that credit ratings agencies cannot fully understand the process of a firm's accounting accruals and thus managers manage earnings to favorably influence their debt ratings. For example, Gu and Zhao (2006) find evidence of a positive relation between accrual-based earnings management and bond ratings. This finding suggests that firms are likely to receive better debt ratings when they engage in more earnings management. They further show that the downward trend in bond ratings may not be due to accrual-based earnings management. Similarly, Demirtas and Cornaggia (2013) find that there are high current accruals at the time of initial credit ratings. This finding indicates that firms manage earnings around initial credit ratings in an attempt to obtain better initial ratings.

CHAPTER 9

CONCLUSION

The objective of this study is to examine whether ratings conservatism by credit ratings agencies can affect a firm's earnings management. I predict that managers take different earnings management strategies in response to the tightening of credit standards by rating agencies. Specifically, I investigate whether ratings conservatism leads to a substitution between an increase in real earnings management and a decrease in accrual-based earnings management. To this end, I test the following hypotheses and predictions. First, I hypothesize that tighter rating standards by credit rating agencies lead to a substitution between real and accrual-based earnings management. Consistent with the first hypothesis, I find that ratings conservatism is associated with lower accrual-based earnings management, measured through the absolute value of discretionary accruals and positive and negative discretionary accruals. In contrast, I find that these firms engage in more real earnings management, measured as the abnormal levels of production costs, discretionary expenses, and cash flow from operations as well as aggregate measures of real earnings management. Further, I find that total earnings management, calculated as the signed discretionary accruals and each aggregate measure of real earnings management, increases in response to ratings conservatism. This finding indicates that the increase in real earnings management is greater than the decrease in accrual-based earnings management. Second, I hypothesize that a positive (negative) relation between ratings conservatism and real earnings management (accrual-based earnings management) is more pronounced for firms with low credit quality than for those with high credit quality. I find that the negative relation between ratings conservatism and accrual-based earnings management, measured as the absolute value of discretionary accruals, is stronger for speculative-grade firms than for investment-grade firms. However, I find that the positive relation between ratings conservatism and real earnings management does not apply to both investment- and speculative-grade firms. Finally, I test whether ratings conservatism is associated with other types of earnings management, such as income smoothing and asymmetric timeliness loss recognition. With respect to the additional analyses, I find no evidence that firms affected more by ratings conservatism tend to engage in more or even less earnings smoothing. I also find inconsistent results regarding the relation between ratings conservatism and each measure of asymmetric timeliness loss recognition. Overall, this study shows that ratings conservatism affects a firm's incentive to manage its reported earnings. More importantly, this study suggests that ratings conservatism can influence a firm's choice between accrual-based and real earnings management.

CHAPTER 10

LIMITATIONS AND FUTURE RESEARCH

Although my study provides useful information to the literature, there are some limitations and future directions that will be addressed. First, it is unclear whether Standard & Poor's (S&P) is generally becoming more conservative over time for all firms or S&P is more conservative for certain types of firms. This distinction is needed for the story of how the empirics work. If it is the former instead of the later, then estimating discretionary accruals by each year does not seem correct. It would be helpful to show that there is cross-sectional variation in ratings conservatism each year if discretionary accruals are estimated by year. Second, regarding accrual-based earnings management, it would be interesting to test the following research questions: Do firms that respond with less accrual-based earnings management have a lower level of debt? Are the firms with less accrual-based earnings management more likely to borrow? Does this type of earnings management strategy work? If so, do firms experience improvement in credit ratings after they engage in less accrual-based earnings management? Third, for an additional cross-sectional test that could be interesting, future research may need to split the sample by firms that want to borrow. This would be consistent with the story if the effect is stronger for firms that borrow in the subsequent year. Further, there is a possibility of reverse causality. For example, firms are more likely to borrow when their credit rating improves, but it still could add to the paper. Fourth, it would help if future research discusses some more details or provides certain anecdotal evidence on how credit rating agencies analyze firms' earnings quality. Finally, it would be more interesting if future research includes additional cross-sectional tests. For instance, would the effect of ratings conservatism vary among firms with different institutional ownership or analyst coverage? Prior literature shows that institutional ownership and financial analysts act as firms' external monitors. Thus, I would expect the relation between ratings conservatism and accrual-based earnings management to be more pronounced in firms with less institutional ownership or analyst coverage.

APPENDIX A

VARIABLE DEFINITIONS: RATINGS MODEL[55]

Variable Name	Description
Book_Lev	The sum of long- and short-term debt divided by total assets;
Conb	The ratio of convertible debt to total assets;
Rentp	The ratio of rental payments to total assets;
Cash	The sum of cash and marketable securities divided by total assets;
Debt_Ebitda	The ratio of total debt to earnings before interest, taxes, depreciation and amortization (EBITDA);
Net_Debt_Ebitda	A dummy variable equal to one if the ratio of total debt to EBITDA is negative, and zero otherwise;
Ebitda_Int	The EBITDA divided by interest payments;
Profit	The ratio of EBITDA to sales;
Vol_Profit	The volatility of *Profit*;
Firm_Size	The logarithm of book value of assets;
Tangibility	The ratio of net property, plant, and equipment (NPPE) divided by total assets;
Capex	Capital expenditures divided by total assets;
Beta	The stock's Dimson beta, estimated from a market-model regression using the daily CRSP value-weighted index returns;
Idiosyncratic_Risk	The root-mean-squared error (RMSE) from a market-model regression.

[55] I estimate the ratings model using variables employed in Baghai et al. (2014).

APPENDIX B

VARIABLE DEFINITIONS: BASELINE REGRESSION MODEL

Variables	Description
Panel A: Accrual-Based Earnings Management (AEM)	
TA	The difference between income before extraordinary items (Compustat Data Item #123) and operating cash flows (Compustat Data Item #308);
AT	Total assets (Compustat Data Item #6);
ΔREV	The change in net sales (Compustat Data Item #12) from the previous year;
ΔAR	The change in accounts receivable (Compustat Data Item #2) from the previous year;
PPE	The gross property, plant, and equipment (Compustat Data Item #7);
DA	The discretionary accruals calculated using the Modified Jones Model;
ABS_DA	The absolute value of the discretionary accruals calculated using the Modified Jones model;
Positive_DA	The positive value of discretionary accruals calculating using the Modified Jones model;
Negative_DA	The negative value of discretionary accruals calculating using the Modified Jones model.
Panel B: Real Earnings Management (REM)	
CFO	The cash flow from operations (Compustat Data Item #308 minus Compustat Data Item #124);
ΔSALE	The change in net sales (Compustat Data Item #12) from the previous year;
COGS	The cost of goods sold (Compustat Data Item #41);

ΔINVT	The change in inventories (Compustat Data Item #3);
PROD	The production costs, calculated as the sum of *COGS* and *ΔINVT*;
DISX	The discretionary expenditures, calculated as the sum of *R&D* expenses (Compustat Data Item #46), *SG&A* (Compustat Data Item #189), and advertising expenses (Compustat Data Item #45), where as long as *SG&A* is available, *R&D* and advertising expenses are set to zero if they are missing;
REM_CFO	The abnormal cash flow from operations (measured as the difference between the actual *CFO* and the fitted normal levels of *CFO*), multiplied by negative one;
REM_PROD	The abnormal levels of production costs (*PROD*), measured as the difference between the actual *PROD* and the fitted normal levels of *PROD*;
REM_DISX	The abnormal levels of discretionary expenses (measured as the difference between the actual *DISX* and the fitted normal levels of *DISX*), multiplied by negative one;
REM1	The aggregate measure of real earnings management, computed as *REM_DISX* + *REM_PROD*;
REM2	The aggregate measure of real earnings management, calculated as *REM_DISX* + *REM_CFO*.
Panel C: Total Earnings Management (TEM)	
TEM1	The sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM1*);
TEM2	The sum of the signed discretionary accruals (*ABS_DA*) and the aggregate real earnings management (*REM2*).
Panel D: Earnings Smoothing	
σ(Earnings)/σ(CFO)	The ratio of standard deviation of earnings to standard deviation of cash flow from operations (*CFO*), both scaled by lagged total assets;

$\rho(\Delta ACC, \Delta CFO)$	The Spearman correlation between the change in total accruals (*ACC*) and the change in cash flow from operations, both scaled by lagged total assets;
$\rho(\Delta DA, \Delta PDI)$	The Spearman correlation between the change in discretionary accruals and the change in pre-discretionary income, where *DA* refers to discretionary accruals and *PDI* is the pre-discretionary income ('un-managed income'), calculated as net income before extraordinary income minus discretionary accruals, i.e., $PDI = NI - DAP$;
EM_SMOOTH1	Earnings smoothing ranking of $\sigma(Earnings)/\sigma(CFO)$. Following Zarowin (2002), I convert $\sigma(Earnings)/\sigma(CFO)$ into reverse fractional ranking by each two-digit SIC industry and year. A higher rank indicates more earnings smoothing;
EM_SMOOTH2	Earnings smoothing ranking of $\rho(\Delta ACC, \Delta CFO)$. Following Tucker and Zarowin (2006), I convert the correlation into reverse fractional ranking by each two-digit SIC industry and year. A higher rank indicates more earnings smoothing;
EM_SMOOTH3	Earnings smoothing ranking of $\rho(\Delta DA, \Delta PDI)$. I follow Tucker and Zarowin (2006) and convert the correlation into reverse fractional ranking by each two-digit SIC industry and year. A higher rank indicates more earnings smoothing.
Panel D: Explanatory Variables (Equations 8 and 13)	
Rat_Diff_Firm	The difference between a firm's actual and predicted ratings, where the predicted ratings are estimated based on firm fixed effects (from model (6) of Table 3);
Rat_Diff_Ind	The difference between a firm's actual and predicted ratings, where the predicted ratings are estimated based on industry fixed effects (from model (3) of Table 3);

Size[56]	The natural logarithm of the market value of total assets, where the market value of total assets is calculated as the market value of equity plus the book value of total assets minus the book value of total equity;
Leverage[57]	The ratio of long-term debt to the market value of total assets;
MTB	The ratio of the market value of equity to the book value of equity;
ROA	The earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by lagged total assets;
Firm_Age	An indicator variable equal to one if a firm listed on Compustat has more than 20 years, and zero otherwise;
Big4	An indicator variable equal to one if a firm's auditor is one of the Big 4 audit firms, and zero otherwise;
SOX	An indicator variable equal to one if the year is 2002 or later, and zero otherwise;
Z_Score	The modified version of Altman's Z-score, calculated as Z = 0.3(net income/total assets) + 1.0(sales/total assets) + 1.4(retained earnings/total assets) + 0.6(market value of equity/total liabilities);
Loss	An indicator variable equal to one if net income is less than zero, and zero otherwise;
NOA	An indicator variable equal to one if the net operating assets at the beginning of the year divided by lagged sales above the median of the corresponding industry-year, and zero otherwise;
M&A	An indicator variable equal to one if the auditee is engaged in a merger or acquisition, and zero otherwise;
Restruct	An indicator variable equal to one if the firm took restricting charges, and zero otherwise.

[56] Results are qualitatively similar to those reported in Tables 6 through 15 if I define *Size* as the natural logarithm of total assets.

[57] Results are qualitatively similar to those reported in Tables 6 through 15 if I define *Leverage* as long- and short-term debt divided by book value of total assets.

Panel E: Asymmetric Timely Loss Recognition	
Basu's Specification	Basu's (1997) asymmetric timeliness measure;
Ball and Shivakumar' Specification	Accrual-based loss recognition measure developed by Ball and Shivakumar (2005);
C_Score	A firm-year measure of conditional conservatism developed by Khan and Watts (2009).

Panel F: Explanatory Variables (Equations 15, 17, and 18)	
Size	Same definition as in Panel D;
Leverage	Same definition as in Panel D;
MTB	Same definition as in Panel D;
ROA	Same definition as in Panel D;
Firm_Age	Same definition as in Panel D;
Sales_Growth	The percentage of annual growth in total sales;
Rd_Adv	Research and development costs (Compustat Data Item XRD) plus advertising expense divided by sales;
LIT	Following Francis et al. (1994), I set an indicator variable equal to one if a firm falls in a high litigation risk industry as identified by SIC codes 2833–2836, 3570–3577, 3600–3674, 5200–5961, and 7370;
Big4	Same definition as in Panel D;
CFO	Cash flow operations divided by lagged total assets.

APPENDIX C

MEASURE OF ASYMMETRIC TIMELY LOSS RECOGNITION: Khan and Watts' *C_Score* (2009, p. 136)

Based on the Basu's (1997) measure of asymmetric timeliness, Khan and Watts (2009) develop a firm-specific measure of the asymmetric timeliness. Khan and Watts (2009) estimate the timelines of good news (*G_Score*) and bad news (*C_Score*) as follows:

$$NI_i = \beta_1 + \beta_2 D_i + \beta_3 RET_i + \beta_4 D_i * RET_i + \varepsilon_i \tag{a}$$

$$G\_Score = \beta_3 = \mu_1 + \mu_2 SIZE_i + \mu_3 MTB_i + \mu_4 LEV_i + \varepsilon_i \tag{b}$$

$$C\_Score = \beta_4 = \lambda_1 + \lambda_2 SIZE_i + \lambda_3 MTB_i + \lambda_4 LEV_i + \varepsilon_i, \tag{c}$$

where the subscript *i* indicates the firm, *NI* is annual earnings, *RET* is returns, *D* is an indicator variable equal to one when *RET*<0 and zero otherwise. *SIZE* is the logarithm of the market value of equity. *MTB* is the ratio of market value of equity to book value of equity. *LEV* is the total debt divided by market value of equity. Replacing β_3 and β_4 estimated from equations (b) and (c) into regression equation (a) and including additional terms in the last parenthesis yields the following equation:

$$\begin{aligned} X_i = {} & \beta_1 + \beta_2 D_i + RET_i * (\mu_1 + \mu_2 SIZE_i + \mu_3 MTB_i + \mu_4 LEV_i) \\ & + D_i * RET_i * (\lambda_1 + \lambda_2 SIZE_i + \lambda_3 MTB_i + \lambda_4 LEV_i) \\ & + (\delta_1 SIZE_i + \delta_2 MTB_i + \delta_3 LEV_i + \delta_4 D_i * SIZE_i + \delta_5 D_i * MTB_i + \delta_6 D_i * LEV_i) + \varepsilon i \end{aligned} \tag{d}$$

I estimate the above equation (d) using annual cross-sectional regressions. Then, I obtain *G_Score* and *C_Score* using the coefficients estimated from equation (d). In the analysis, I use *C_Score* for capturing a firm's asymmetric timely loss recognition (also for measuring a firm's conditional accounting conservatism). All variables used are defined in Appendix B.

Table 1 Number of Firms by S&P Credit Ratings Categories and Year, 1985-2014 (CHAPTER 4)

This table shows the distribution of credit ratings over the period 1985 to 2014. My sample contains 35,160 firm-year observations of ratings. For the convenience, I combine minus (−), middle, and plus (+) specifications for each broad credit rating. For example, the AA category includes credit ratings of AA+, AA, and AA−.

	Rating									
Year	AAA	AA	A	BBB	BB	B	CCC	CC	C	Total
1985	28	103	197	118	131	160	6	1	0	744
1986	28	108	194	144	173	246	48	0	0	941
1987	31	108	185	133	170	255	33	2	0	917
1988	34	87	201	139	156	263	29	0	0	909
1989	35	87	189	151	153	234	31	0	1	881
1990	33	86	193	151	150	188	36	0	3	840
1991	32	87	196	165	159	159	34	9	0	841
1992	30	85	198	188	189	156	23	6	0	875
1993	28	84	198	208	229	178	12	1	0	938
1994	26	79	202	221	237	194	14	1	0	974
1995	27	77	216	243	263	224	17	0	0	1,067
1996	25	82	228	285	288	259	17	2	0	1,186
1997	24	81	235	319	340	319	11	2	0	1,331
1998	21	80	230	349	368	344	23	6	0	1,421
1999	17	68	218	370	372	349	30	10	0	1,434
2000	14	49	232	381	361	384	43	7	0	1,471
2001	13	47	217	388	365	363	55	13	0	1,461
2002	11	41	209	379	385	328	71	14	0	1,438
2003	11	38	202	373	418	374	61	5	0	1,482
2004	9	37	197	376	423	365	44	4	0	1,455
2005	9	34	194	351	397	359	46	2	0	1,392
2006	9	34	167	335	391	378	33	2	0	1,349
2007	7	33	156	328	357	352	22	4	0	1,259
2008	6	32	149	313	316	327	53	12	0	1,208
2009	5	32	146	323	297	345	39	2	0	1,189
2010	6	30	145	337	313	351	23	5	0	1,210
2011	6	27	144	341	323	336	24	1	0	1,202
2012	6	28	143	348	324	354	22	1	0	1,226
2013	6	33	142	355	350	336	27	0	0	1,249
2014	5	35	138	353	368	347	24	0	0	1,270
Total	542	1832	5661	8465	8766	8827	951	112	4	35,160

Table 2 Summary Statistics for Relevant Variables used in Ratings Models (CHAPTER 4)

This table reports descriptive statistics for variables used in the ratings model (1). This table shows that the average ratings variable (Rating) has increased from 8.876 in 1985 to 11.150 in 2014. All variables are defined in Appendix A.

Year	***Rating***	*Book_Lev*	*Conb*	*Rentp*	*Cash*	*Debt_Ebitda*	*Net_Debt_Ebitda*	*Ebitda_Int*	*Profit*	*Vol_Profit*	*Firm_Size*	*Tangibility*	*Capex*
1985	**8.876**	0.326	0.042	0.024	0.079	2.962	0.034	7.868	0.159	0.036	6.840	0.451	0.088
1986	**9.944**	0.363	0.051	0.025	0.090	3.511	0.052	7.344	0.143	0.058	6.651	0.416	0.076
1987	**9.913**	0.377	0.055	0.025	0.088	3.352	0.046	6.996	0.161	0.051	6.801	0.408	0.073
1988	**9.878**	0.392	0.046	0.025	0.077	3.457	0.035	7.334	0.166	0.049	6.967	0.406	0.074
1989	**9.796**	0.405	0.038	0.024	0.069	3.508	0.035	6.248	0.164	0.120	7.106	0.416	0.075
1990	**9.638**	0.403	0.033	0.024	0.065	3.400	0.032	6.741	0.161	0.106	7.226	0.424	0.074
1991	**9.529**	0.393	0.033	0.026	0.065	3.765	0.027	6.614	0.158	0.039	7.281	0.433	0.068
1992	**9.477**	0.382	0.035	0.026	0.066	3.540	0.025	8.334	0.157	0.037	7.298	0.433	0.069
1993	**9.549**	0.375	0.034	0.026	0.071	3.519	0.031	7.956	0.143	0.042	7.300	0.429	0.072
1994	**9.715**	0.375	0.032	0.025	0.065	3.287	0.031	8.916	0.154	0.051	7.329	0.425	0.074
1995	**9.845**	0.382	0.029	0.024	0.066	3.204	0.032	8.931	0.157	0.058	7.341	0.410	0.078
1996	**10.006**	0.386	0.027	0.024	0.068	3.318	0.037	8.803	0.139	0.162	7.359	0.410	0.079
1997	**10.243**	0.400	0.027	0.024	0.075	3.398	0.042	10.216	0.109	0.268	7.332	0.399	0.082
1998	**10.443**	0.442	0.023	0.026	0.068	3.839	0.055	9.504	0.065	0.357	7.393	0.388	0.082
1999	**10.628**	0.440	0.020	0.024	0.072	3.764	0.059	7.987	0.096	0.378	7.485	0.375	0.071
2000	**10.821**	0.427	0.021	0.024	0.072	3.491	0.068	8.203	0.123	0.405	7.551	0.365	0.070
2001	**10.934**	0.424	0.023	0.026	0.078	3.853	0.057	8.161	0.150	0.094	7.561	0.364	0.064
2002	**11.043**	0.415	0.024	0.026	0.084	3.679	0.040	10.323	0.142	0.085	7.602	0.361	0.052
2003	**11.142**	0.398	0.025	0.025	0.093	3.815	0.026	11.782	0.096	0.285	7.689	0.351	0.049
2004	**11.073**	0.375	0.024	0.023	0.097	3.188	0.014	16.014	0.154	0.297	7.791	0.339	0.052
2005	**11.114**	0.358	0.021	0.022	0.097	3.086	0.014	18.579	0.174	0.313	7.863	0.325	0.057
2006	**11.211**	0.356	0.021	0.021	0.090	3.025	0.015	18.016	0.170	0.188	7.953	0.325	0.063
2007	**11.155**	0.364	0.019	0.020	0.085	3.155	0.022	15.384	0.164	0.194	8.082	0.325	0.064
2008	**11.380**	0.386	0.019	0.022	0.087	3.281	0.050	14.338	0.154	0.212	8.109	0.337	0.065
2009	**11.297**	0.366	0.017	0.022	0.109	3.494	0.044	13.524	0.163	0.147	8.123	0.337	0.048
2010	**11.203**	0.351	0.016	0.020	0.108	3.127	0.016	17.561	0.202	0.148	8.184	0.332	0.051
2011	**11.113**	0.359	0.012	0.019	0.099	3.040	0.017	16.198	0.206	0.157	8.232	0.329	0.058
2012	**11.140**	0.366	0.010	0.018	0.098	3.420	0.016	17.685	0.167	0.165	8.289	0.330	0.064
2013	**11.151**	0.369	0.008	0.018	0.102	3.435	0.024	16.134	0.202	0.067	8.300	0.336	0.061
2014	**11.150**	0.382	0.008	0.018	0.099	3.594	0.020	16.260	0.195	0.064	8.321	0.332	0.062
Mean	10.593	0.386	0.025	0.023	0.084	3.426	0.034	11.670	0.151	0.170	7.617	0.371	0.066
N	35,160	34,993	34,601	30,548	35,055	34,642	35,160	34,641	35,009	35,160	33,354	34,877	34,552

Table 3 Ratings Models (CHAPTER 4)

This table shows the results of the ratings model on the relation between each explanatory variable and credit ratings. In columns (1), (3), (5), and (6), I run pooled OLS regressions. I also run ordered logit regressions in columns (2) and (4). In the first four columns, I consider industry and year fixed effects. Furthermore, I consider firm and year fixed effects in the last two models. The results reported in all columns (1) through (6) are consistent with Baghai et al. (2014). All variables are defined in Appendix A.

	(1)		(2)		(3)		(4)		(5)		(6)	
Rating	*Coef.*	*P-value*	*Coef.*	*P-value*	*Coef.*	*P-value*	*Coef.*	*P-value*	*Coef.*	*P-value*	*Coef.*	*P-value*
Book_Lev	2.986	0.000	2.665	0.000	2.609	0.000	2.576	0.000	2.616	0.000	2.575	0.000
Conb	2.575	0.000	1.599	0.000	2.402	0.000	2.049	0.000	0.659	0.099	0.526	0.169
Rentp	4.021	0.001	4.654	0.000	4.104	0.002	5.064	0.000	2.190	0.239	3.985	0.060
Cash	0.589	0.071	0.678	0.011	0.105	0.735	0.343	0.223	-0.437	0.151	-0.208	0.518
Debt_Ebitda	0.262	0.000	0.263	0.000	0.179	0.000	0.199	0.000	0.114	0.000	0.088	0.000
Net_Debt_Ebitda	3.329	0.000	3.491	0.000	1.960	0.000	2.545	0.000	1.590	0.000	1.173	0.000
Ebitda_Int	-0.005	0.000	-0.004	0.001	-0.005	0.000	-0.005	0.001	-0.002	0.000	-0.002	0.000
Profit	-0.091	0.001	-0.091	0.002	-0.064	0.005	-0.075	0.004	-0.009	0.673	-0.011	0.435
Vol_Profit	0.012	0.034	0.019	0.014	0.002	0.741	0.009	0.324	0.006	0.442	0.003	0.705
Firm_Size	-1.275	0.000	-1.061	0.000	-1.103	0.000	-0.995	0.000	-1.073	0.000	-1.037	0.000
Tangibility	-1.130	0.000	-0.616	0.008	0.292	0.263	0.389	0.096	-1.043	0.006	-1.350	0.002
Capex	-1.517	0.020	-1.673	0.002	-2.440	0.000	-2.535	0.000	-4.953	0.000	-4.290	0.000
Beta	-	-	-	-	0.251	0.000	0.187	0.000	-	-	0.079	0.000
Idiosyncratic_Risk	-	-	-	-	2.032	0.000	2.417	0.000	-	-	1.188	0.000
1986	**0.372**	0.000	**0.247**	0.000	**0.309**	0.002	**0.244**	0.005	**0.310**	0.000	**0.354**	0.000

1987	**0.535**	0.000	**0.412**	0.000	**0.347**	0.002	**0.314**	0.002	**0.487**	0.000	**0.491**	0.000
1988	**0.664**	0.000	**0.553**	0.000	**0.406**	0.001	**0.394**	0.000	**0.652**	0.000	**0.576**	0.000
1989	**0.792**	0.000	**0.622**	0.000	**0.490**	0.000	**0.470**	0.000	**0.753**	0.000	**0.670**	0.000
1990	**0.887**	0.000	**0.668**	0.000	**0.573**	0.000	**0.509**	0.000	**0.916**	0.000	**0.887**	0.000
1991	**0.837**	0.000	**0.614**	0.000	**0.532**	0.000	**0.487**	0.000	**0.899**	0.000	**0.876**	0.000
1992	**0.893**	0.000	**0.631**	0.000	**0.732**	0.000	**0.681**	0.000	**0.911**	0.000	**0.975**	0.000
1993	**0.928**	0.000	**0.677**	0.000	**0.806**	0.000	**0.709**	0.000	**0.894**	0.000	**1.005**	0.000
1994	**1.176**	0.000	**0.928**	0.000	**1.056**	0.000	**0.974**	0.000	**1.071**	0.000	**1.175**	0.000
1995	**1.313**	0.000	**1.052**	0.000	**1.176**	0.000	**1.078**	0.000	**1.191**	0.000	**1.311**	0.000
1996	**1.414**	0.000	**1.105**	0.000	**1.236**	0.000	**1.113**	0.000	**1.285**	0.000	**1.384**	0.000
1997	**1.531**	0.000	**1.177**	0.000	**1.274**	0.000	**1.092**	0.000	**1.339**	0.000	**1.387**	0.000
1998	**1.515**	0.000	**1.113**	0.000	**1.354**	0.000	**1.113**	0.000	**1.352**	0.000	**1.418**	0.000
1999	**1.815**	0.000	**1.368**	0.000	**1.637**	0.000	**1.378**	0.000	**1.555**	0.000	**1.645**	0.000
2000	**2.225**	0.000	**1.703**	0.000	**1.998**	0.000	**1.685**	0.000	**1.867**	0.000	**1.918**	0.000
2001	**2.341**	0.000	**1.767**	0.000	**2.195**	0.000	**1.877**	0.000	**2.118**	0.000	**2.210**	0.000
2002	**2.627**	0.000	**2.002**	0.000	**2.287**	0.000	**1.972**	0.000	**2.397**	0.000	**2.396**	0.000
2003	**2.860**	0.000	**2.217**	0.000	**2.515**	0.000	**2.189**	0.000	**2.558**	0.000	**2.561**	0.000
2004	**3.225**	0.000	**2.559**	0.000	**2.833**	0.000	**2.480**	0.000	**2.793**	0.000	**2.803**	0.000
2005	**3.487**	0.000	**2.798**	0.000	**3.037**	0.000	**2.655**	0.000	**3.039**	0.000	**2.982**	0.000
2006	**3.723**	0.000	**3.006**	0.000	**3.186**	0.000	**2.796**	0.000	**3.241**	0.000	**3.131**	0.000
2007	**3.856**	0.000	**3.106**	0.000	**3.243**	0.000	**2.851**	0.000	**3.368**	0.000	**3.230**	0.000

2008	**3.921**	0.000	**3.156**	0.000	**3.304**	0.000	**2.956**	0.000	**3.545**	0.000	**3.405**	0.000
2009	**3.849**	0.000	**3.122**	0.000	**3.240**	0.000	**2.917**	0.000	**3.453**	0.000	**3.315**	0.000
2010	**4.108**	0.000	**3.320**	0.000	**3.474**	0.000	**3.109**	0.000	**3.526**	0.000	**3.386**	0.000
2011	**4.068**	0.000	**3.274**	0.000	**3.439**	0.000	**3.050**	0.000	**3.523**	0.000	**3.365**	0.000
2012	**4.054**	0.000	**3.228**	0.000	**3.470**	0.000	**3.060**	0.000	**3.543**	0.000	**3.393**	0.000
2013	**4.009**	0.000	**3.201**	0.000	**3.487**	0.000	**3.073**	0.000	**3.514**	0.000	**3.352**	0.000
2014	**3.979**	0.000	**3.156**	0.000	**3.419**	0.000	**3.008**	0.000	**3.418**	0.000	**3.280**	0.000
Industry dummies	Y	-	Y	-	Y	-	Y	-	N	-	N	-
Firm dummies	N	-	N	-	N	-	N	-	Y	-	Y	-
Observations	27,631	-	27,631	-	21,528	-	21,528	-	27,631	-	21,528	-
Adjusted R^2	0.642	-	-	-	0.689	-	-	-	0.888	-	0.893	-
Pseudo R^2	-	-	0.206	-	-	-	0.243	-	-	-	-	-

Table 4 Descriptive Statistics (CHAPTER 5)

This table shows descriptive statistics for relevant variables used in the analysis. My sample period is between 1997 and 2014. All variables are defined in Appendix B.

Variable	N	Mean	Std. Dev.	25th Pctl.	Median	75th Pctl.
DA	11,499	**0.0017**	0.0712	-0.0255	0.0060	0.0365
ABS_DA	11,499	**0.0482**	0.0550	0.0141	0.0315	0.0612
REM_PROD	11,499	**0.0023**	0.1422	-0.0719	0.0044	0.0833
REM_DISX	11,499	**0.0079**	0.1570	-0.0577	0.0174	0.0924
REM_CFO	11,499	**-0.0015**	0.0693	-0.0407	-0.0006	0.0371
REM1	11,499	0.0111	0.2652	-0.1187	0.0208	0.1691
REM2	11,499	0.0069	0.1702	-0.0754	0.0169	0.1071
TEM1	11,499	0.0595	0.2704	-0.0767	0.0663	0.2177
TEM2	11,499	0.0553	0.1788	-0.0378	0.0584	0.1585
EM_SMOOTH1	9,981	0.5113	0.2925	0.2632	0.5169	0.7636
EM_SMOOTH2	9,962	0.5021	0.2885	0.2553	0.5250	0.7732
EM_SMOOTH3	9,874	0.5141	0.2857	0.2727	0.5227	0.7619
Rat_Diff_Firm	11,499	**0.4749**	5.5444	-0.3494	2.1064	3.7663
Rat_Diff_Ind	11,499	**0.6193**	5.5226	0.1721	2.2817	3.8094
Size	11,499	8.4460	1.5098	7.3927	8.3188	9.4424
Leverage	11,499	0.2329	0.1706	0.1017	0.1956	0.3295
MTB	11,499	2.8671	5.3716	1.2540	2.1387	3.5486
ROA	11,499	0.0956	0.0989	0.0508	0.0943	0.1449
Firm_Age	11,499	0.4794	0.4996	0.0000	0.0000	1.0000
Big4	11,499	0.9080	0.2890	1.0000	1.0000	1.0000
SOX	11,499	0.7230	0.4475	0.0000	1.0000	1.0000
Z_Score	11,499	8.3083	39.6864	1.9198	3.3597	5.7348
Loss	11,499	0.2399	0.4271	0.0000	0.0000	0.0000
NOA	11,499	0.5306	0.4991	0.0000	1.0000	1.0000
M&A	11,499	0.1621	0.3686	0.0000	0.0000	0.0000
Restruct	11,499	0.3803	0.4855	0.0000	0.0000	1.0000

Table 5 Pearson Correlation Coefficients (CHAPTER 5)

This table presents Pearson correlation coefficients between variables. My sample period is between 1997 and 2014. Correlations in bold denote the statistical significance at the 5 percent level (two-tailed test). All variables are defined in Appendix B.

Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**	**(15)**	**(16)**	**(17)**	**(18)**	**(19)**
(1) *DA*	1.00																		
(2) *ABS_DA*	**-0.21**	1.00																	
(3) *REM_PROD*	**0.02**	**0.05**	1.00																
(4) *REM_DISX*	**0.11**	**-0.06**	**0.68**	1.00															
(5) *REM_CFO*	**0.22**	**0.13**	**0.47**	**0.08**	1.00														
(6) *Rat_Diff_Firm*	**-0.04**	**0.05**	**0.13**	**0.05**	0.17	1.00													
(7) *Rat_Diff_Ind*	-0.01	0.00	**0.10**	**0.03**	0.13	**0.95**	1.00												
(8) *Size*	**0.05**	**-0.15**	**-0.12**	**-0.08**	-0.22	**-0.47**	**-0.32**	1.00											
(9) *Leverage*	**-0.08**	**0.11**	**0.17**	**0.14**	0.26	**0.25**	**0.09**	**-0.47**	1.00										
(10) *MTB*	-0.01	-0.02	**-0.13**	**-0.12**	-0.13	**-0.10**	**-0.06**	**0.19**	**-0.21**	1.00									
(11) *ROA*	**0.22**	**-0.21**	**-0.36**	**-0.09**	-0.47	**-0.17**	**-0.09**	**0.24**	**-0.33**	**0.18**	1.00								
(12) *Firm_Age*	**0.09**	**-0.13**	**-0.04**	-0.01	-0.05	**-0.25**	**-0.16**	**0.35**	**-0.27**	**0.05**	**0.13**	1.00							
(13) *Big4*	0.00	**-0.06**	0.00	-0.02	-0.03	**-0.02**	0.02	**0.16**	**-0.14**	0.02	**0.06**	**0.07**	1.00						
(14) *SOX*	-0.02	**-0.13**	0.00	-0.01	-0.02	**0.11**	**0.14**	**0.16**	**-0.10**	**-0.03**	**0.06**	**0.06**	**0.30**	1.00					
(15) *Z_Score*	**0.13**	**-0.17**	**-0.09**	-0.04	**-0.19**	**-0.18**	**-0.06**	**0.26**	**-0.61**	**0.15**	**0.37**	**0.23**	**0.09**	**0.06**	1.00				
(16) *Loss*	**-0.32**	**0.24**	**0.14**	-0.01	0.30	**0.19**	**0.07**	**-0.27**	**0.39**	**-0.12**	**-0.55**	**-0.18**	**-0.09**	**-0.08**	**-0.45**	1.00			
(17) *NOA*	**-0.05**	**-0.02**	**0.03**	0.10	**0.01**	**0.01**	-0.01	**-0.05**	**0.19**	**-0.07**	**-0.15**	**-0.08**	**-0.03**	-0.01	**-0.13**	**0.07**	1.00		
(18) *M&A*	**-0.04**	**-0.04**	0.02	-0.02	0.01	**-0.02**	0.01	**0.14**	**-0.04**	0.01	**0.04**	**0.03**	**0.06**	**0.23**	**0.02**	**-0.05**	**0.03**	1.00	
(19) *Restruct*	**-0.05**	**-0.05**	-0.01	-0.04	**0.04**	**0.00**	**0.03**	**0.15**	**-0.10**	-0.01	**-0.04**	**0.14**	**0.13**	**0.33**	**0.04**	**0.04**	-0.01	**0.20**	1.00

Table 6 Relation between Ratings Conservatism and Accrual-Based Earnings Management (Testing H1 using the ratings conservatism measure, *Rat_Diff_Firm*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm*. I use a sample of 9,837, 5,548, and 4,289 firm-year observations for *ABS_DA*, *Positive_DA*, and *Negative_DA*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

Explanatory variables	Dependent variables:								
	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Intercept	0.1039***	0.1027***	-0.0944***	0.1032 ***	0.1031 ***	-0.0929 ***	0.1034 ***	0.1028 ***	-0.0894 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Lagged_Rat_Diff_Firm	**-0.0002****	**-0.0001**	**0.0004****	**-0.0002** *	**-0.0001**	**0.0004** *	**-0.0002** *	**-0.0001**	**0.0003**
	(0.045)	(0.653)	(0.036)	(0.065)	(0.588)	(0.068)	(0.061)	(0.342)	(0.117)
Size	-0.0026***	-0.0031***	0.0016*	-0.0025 ***	-0.0032 ***	0.0016 *	-0.0026 ***	-0.0033 ***	0.0018 **
	(<0.001)	(<0.001)	(0.081)	(<0.001)	(<0.001)	(0.081)	(<0.001)	(0.001)	(0.045)
Leverage	-0.0207***	-0.0043	0.0374***	-0.0186 ***	-0.0057	0.0331 ***	-0.0184 ***	-0.0125 **	0.0249 **
	(0.001)	(0.459)	(<0.001)	(0.004)	(0.343)	(0.001)	(0.004)	(0.038)	(0.013)
MTB	0.0002	-0.0000	-0.0003	0.0002	-0.0000	-0.0002	0.0002	0.0000	-0.0001
	(0.149)	(0.827)	(0.127)	(0.195)	(0.875)	(0.220)	(0.198)	(0.869)	(0.449)
ROA	-0.0449***	-0.0077	0.0562***	-0.0502 ***	-0.0033	0.0657 ***	-0.0496 ***	0.0155	0.0770 ***
	(0.002)	(0.557)	(0.003)	(0.001)	(0.812)	(0.001)	(0.001)	(0.274)	(<0.001)
Firm_Age	-0.0043***	-0.0012	0.0072***	-0.0042 ***	-0.0012	0.0069 ***	-0.0042 ***	-0.0012	0.0063 ***
	(0.001)	(0.372)	(<0.001)	(0.001)	(0.383)	(<0.001)	(0.001)	(0.385)	(0.001)

Big4	0.0029	0.0022	-0.0021	0.0029	0.0022	-0.0020	0.0029	0.0023	-0.0020
	(0.230)	(0.410)	(0.575)	(0.233)	(0.409)	(0.581)	(0.233)	(0.384)	(0.591)
SOX	-0.0184***	-0.0148***	0.0150***	-0.0185***	-0.0147***	0.0143***	-0.0184***	-0.0143***	0.0133***
	(<0.001)	(<0.001)	(0.004)	(<0.001)	(<0.001)	(0.006)	(<0.001)	(<0.001)	(0.010)
Z_Score	-0.0102***	-0.0047**	0.0156***	-0.0098***	-0.0050**	0.0151***	-0.0099***	-0.0059**	0.0147***
	(<0.001)	(0.045)	(<0.001)	(<0.001)	(0.035)	(<0.001)	(<0.001)	(0.012)	(<0.001)
Loss	0.0153***	-0.0117***	-0.0368***	0.0149***	-0.0115***	-0.0361***	0.0150***	-0.0109***	-0.0362***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
NOA	-0.0054***	-0.0072***	0.0044***	-0.0054***	-0.0072***	0.0043**	-0.0054***	-0.0070***	0.0038**
	(<0.001)	(<0.001)	(0.010)	(<0.001)	(<0.001)	(0.014)	(<0.001)	(<0.001)	(0.030)
M&A	0.0010	-0.0029*	-0.0058***	0.0010	-0.0029*	-0.0060***	0.0010	-0.0028*	-0.0062***
	(0.494)	(0.083)	(0.009)	(0.478)	(0.084)	(0.006)	(0.496)	(0.095)	(0.004)
Restruct	-0.0008	-0.0022*	0.0004	-0.0010	-0.0021	0.0008	-0.0010	-0.0015	0.0009
	(0.499)	(0.079)	(0.822)	(0.389)	(0.105)	(0.687)	(0.420)	(0.232)	(0.629)
REM1				**-0.0061** **	0.0040	0.0137***			
				(0.040)	(0.171)	(0.003)			
REM2							**-0.0089** *	0.0338***	0.0514***
							(0.074)	(<0.001)	(<0.001)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1137	0.0913	0.2166	0.1144	0.0916	0.2199	0.1143	0.1048	0.2350

Table 7 Relation between Ratings Conservatism and Accrual-Based Earnings Management
(Testing H1 using the ratings conservatism measure, *Rat_Diff_Ind*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Ind*. I use a sample of 9,837, 5,548, and 4,289 firm-year observations for *ABS_DA*, *Positive_DA*, and *Negative_DA*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variables:								
Explanatory variables	***ABS_DA*** **(1)**	***Positive_DA*** **(2)**	***Negative_DA*** **(3)**	***ABS_DA*** **(4)**	***Positive_DA*** **(5)**	***Negative_DA*** **(6)**	***ABS_DA*** **(7)**	***Positive_DA*** **(8)**	***Negative_DA*** **(9)**
Intercept	0.1037***	0.1044***	-0.0924***	0.1031 ***	0.1048 ***	-0.0913 ***	0.1033 ***	0.1044 ***	-0.0881 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Lagged_Rat_Diff_Ind	**-0.0003*****	**-0.0002***	**0.0003***	**-0.0003** **	**-0.0002** **	**0.0003** *	**-0.0003** **	**-0.0003** **	**0.0003**
	(0.010)	(0.058)	(0.059)	(0.015)	(0.046)	(0.095)	(0.014)	(0.015)	(0.141)
Size	-0.0026***	-0.0033***	0.0013	-0.0025 ***	-0.0034 ***	0.0014	-0.0026 ***	-0.0035 ***	0.0016 **
	(<0.001)	(<0.001)	(0.124)	(<0.001)	(<0.001)	(0.114)	(<0.001)	(<0.001)	(0.060)
Leverage	-0.0214***	-0.0048	0.0380***	-0.0193 ***	-0.0063	0.0336 ***	-0.0191 ***	-0.0133 **	0.0254 **
	(0.001)	(0.404)	(<0.001)	(0.003)	(0.292)	(0.001)	(0.003)	(0.028)	(0.012)
MTB	0.0002	-0.0000	-0.0003	0.0002	-0.0000	-0.0002	0.0002	0.0000	-0.0001
	(0.149)	(0.832)	(0.127)	(0.193)	(0.882)	(0.220)	(0.196)	(0.864)	(0.448)
ROA	-0.0451***	-0.0082	0.0564***	-0.0504 ***	-0.0036	0.0660 ***	-0.0498 ***	0.0152	0.0772 ***
	(0.001)	(0.530)	(0.004)	(0.001)	(0.795)	(0.001)	(0.001)	(0.281)	(<0.001)
Firm_Age	-0.0042***	-0.0013	0.0071***	-0.0042 ***	-0.0013	0.0068 ***	-0.0041 ***	-0.0012	0.0062 ***
	(0.001)	(0.347)	(<0.001)	(0.001)	(0.359)	(<0.001)	(0.001)	(0.367)	(0.001)
Big4	0.0029	0.0022	-0.0021	0.0029	0.0022	-0.0020	0.0029	0.0024	-0.0020
	(0.227)	(0.398)	(0.575)	(0.229)	(0.398)	(0.581)	(0.230)	(0.372)	(0.591)

SOX	-0.0183***	-0.0144***	0.0151***	-0.0183 ***	-0.0144 ***	0.0144 ***	-0.0183 ***	-0.0139 ***	0.0134 ***
	(<0.001)	(<0.001)	(0.004)	(<0.001)	(<0.001)	(0.006)	(<0.001)	(<0.001)	(0.010)
Z_Score	-0.0101***	-0.0047**	0.0155***	-0.0098 ***	-0.0050 **	0.0150 ***	-0.0099 ***	-0.0059 **	0.0146 ***
	(<0.001)	(0.043)	(<0.001)	(<0.001)	(0.034)	(<0.001)	(<0.001)	(0.012)	(<0.001)
Loss	0.0152***	-0.0117***	-0.0367***	0.0148 ***	-0.0115 ***	-0.0360 ***	0.0149 ***	-0.0109 ***	-0.0361 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
NOA	-0.0054***	-0.0073***	0.0044***	-0.0054 ***	-0.0072 ***	0.0042 **	-0.0054 ***	-0.0071 ***	0.0037 **
	(<0.001)	(<0.001)	(0.011)	(<0.001)	(<0.001)	(0.015)	(<0.001)	(<0.001)	(0.032)
M&A	0.0010	-0.0029*	-0.0058***	0.0010	-0.0029 *	-0.0061 ***	0.0010	-0.0028 *	-0.0062 ***
	(0.487)	(0.079)	(0.008)	(0.472)	(0.080)	(0.006)	(0.490)	(0.091)	(0.004)
Restruct	-0.0008	-0.0022*	0.0005	-0.0010	-0.0020	0.0008	-0.0010	-0.0014	0.0009
	(0.505)	(0.087)	(0.808)	(0.396)	(0.117)	(0.674)	(0.427)	(0.254)	(0.620)
REM1				**-0.0060** **	0.0042	0.0139 ***			
				(0.042)	(0.148)	(0.002)			
REM2							**-0.0088** *	0.0342 ***	0.0516 ***
							(0.076)	(<0.001)	(<0.001)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1140	0.0920	0.2164	0.1147	0.0924	0.2198	0.1146	0.1058	0.2349

Table 8 Relation between Ratings Conservatism and Real Earnings Management
(Testing H1 using the ratings conservatism measure, *Rat_Diff_Firm*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm*. I use a sample of 9,837 firm-year observations for measuring real earnings management proxies, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variables:									
Explanatory variables	***REM_PROD*** **(1)**	***REM_DISX*** **(2)**	***REM_CFO*** **(3)**	***REM1*** **(4)**	***REM2*** **(5)**	***REM_PROD*** **(6)**	***REM_DISX*** **(7)**	***REM_CFO*** **(8)**	***REM1*** **(9)**	***REM2*** **(10)**
Intercept	-0.0570**	-0.0623*	0.0082	-0.1200 **	-0.0586 *	-0.0569 **	-0.0450	0.0024	-0.1036 *	-0.0493
	(0.030)	(0.063)	(0.511)	(0.033)	(0.091)	(0.033)	(0.184)	(0.844)	(0.069)	(0.160)
Lagged_Rat_Diff_Firm	**0.0022*****	**0.0013****	**0.0007*****	**0.0036** ***	**0.0020** ***	**0.0022** ***	**0.0013** **	**0.0007** ***	**0.0035** ***	**0.0020** ***
	(<0.001)	(0.042)	(0.003)	(0.001)	(0.003)	(<0.001)	(0.049)	(0.003)	(0.002)	(0.004)
Size	0.0071**	0.0022	-0.0015	0.0094	0.0012	0.0071 **	0.0017	-0.0013	0.0090	0.0010
	(0.011)	(0.536)	(0.172)	(0.110)	(0.740)	(0.011)	(0.620)	(0.219)	(0.126)	(0.790)
Leverage	0.1543***	0.1880***	0.0716***	0.3401 ***	0.2572 ***	0.1543 ***	0.1846 ***	0.0727 ***	0.3368 ***	0.2553 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
MTB	-0.0015***	-0.0021***	-0.0005***	-0.0036 ***	-0.0027 ***	-0.0015 ***	-0.0021 ***	-0.0005 ***	-0.0036 ***	-0.0026 ***
	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)
ROA	-0.6853***	-0.2160***	-0.3480***	-0.8815 ***	-0.5354 ***	-0.6853 ***	-0.2234 ***	-0.3455 ***	-0.8886 ***	-0.5394 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Firm_Age	0.0020	0.0086	0.0046**	0.0095	0.0122	0.0020	0.0079	0.0049 **	0.0088	0.0118
	(0.789)	(0.361)	(0.035)	(0.530)	(0.190)	(0.789)	(0.402)	(0.027)	(0.559)	(0.203)

Big4	0.0006	-0.0017	0.0011	-0.0017	-0.0014	0.0006	-0.0012	0.0009	-0.0012	-0.0012
	(0.939)	(0.866)	(0.743)	(0.917)	(0.887)	(0.938)	(0.905)	(0.781)	(0.940)	(0.908)
SOX	-0.0007	-0.0006	0.0055	-0.0017	0.0044	-0.0007	-0.0037	0.0065 *	-0.0046	0.0027
	(0.920)	(0.937)	(0.115)	(0.897)	(0.599)	(0.919)	(0.627)	(0.060)	(0.725)	(0.744)
Z_Score	0.0292***	0.0267***	0.0030	0.0555 ***	0.0290 ***	0.0292 ***	0.0250 ***	0.0036	0.0539 ***	0.0281 ***
	(<0.001)	(0.002)	(0.311)	(<0.001)	(0.001)	(<0.001)	(0.003)	(0.229)	(<0.001)	(0.001)
Loss	-0.0352***	-0.0395***	0.0003	-0.0733 ***	-0.0366 ***	-0.0352 ***	-0.0369 ***	-0.0006	-0.0708 ***	-0.0352 ***
	(<0.001)	(<0.001)	(0.896)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.808)	(<0.001)	(<0.001)
NOA	-0.0178***	0.0168**	-0.0150***	-0.0021	0.0012	-0.0178 ***	0.0159 **	-0.0147 ***	-0.0030	0.0007
	(0.003)	(0.018)	(<0.001)	(0.862)	(0.866)	(0.003)	(0.025)	(<0.001)	(0.807)	(0.919)
M&A	0.0139**	-0.0070	0.0064***	0.0059	-0.0006	0.0139 **	-0.0068	0.0063 ***	0.0060	-0.0005
	(0.013)	(0.297)	(0.001)	(0.603)	(0.929)	(0.013)	(0.307)	(0.001)	(0.593)	(0.940)
Restruct	-0.0169***	-0.0206***	0.0025	-0.0369	-0.0179 ***	-0.0169 ***	-0.0207 ***	0.0025	-0.0371 ***	-0.0180 ***
	(0.001)	(0.002)	(0.168)	(0.001)	(0.008)	(0.001)	(0.002)	(0.159)	(0.001)	(0.008)
ABS_DA						-0.0005	-0.1663 ***	0.0553 ***	**-0.1577** **	**-0.0899** *
						(0.988)	(0.001)	(0.008)	(0.035)	(0.068)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1918	0.0812	0.3017	0.1299	0.1649	0.1917	0.0839	0.3032	0.1306	0.1655

Table 9 Relation between Ratings Conservatism and Real Earnings Management

(Testing H1 using the ratings conservatism measure, *Rat_Diff_Ind*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Ind*. I use a sample of 9,837 firm-year observations for real earnings management measures, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variables:									
Explanatory variables	***REM_PROD*** **(1)**	***REM_DISX*** **(2)**	***REM_CFO*** **(3)**	***REM1*** **(4)**	***REM2*** **(5)**	***REM_PROD*** **(6)**	***REM_DISX*** **(7)**	***REM_CFO*** **(8)**	***REM1*** **(9)**	***REM2*** **(10)**
Intercept	-0.0482*	-0.0540*	0.0091	-0.1031 *	-0.0493	-0.0482 *	-0.0368	0.0033	-0.0868	-0.0401
	(0.062)	(0.096)	(0.456)	(0.060)	(0.145)	(0.065)	(0.264)	(0.786)	(0.118)	(0.241)
Lagged_Rat_Diff_Ind	**0.0019*****	**0.0009**	**0.0008*****	**0.0029** ***	**0.0017** **	**0.0020** ***	**0.0008**	**0.0008** ***	**0.0028** ***	**0.0017** **
	(<0.001)	(0.141)	(<0.001)	(0.006)	(0.010)	(<0.001)	(0.163)	(<0.001)	(0.007)	(0.011)
Size	0.0060**	0.0012	-0.0016	0.0074	0.0001	0.0060 **	0.0007	-0.0014	0.0070	-0.0002
	(0.027)	(0.733)	(0.126)	(0.201)	(0.982)	(0.028)	(0.829)	(0.166)	(0.227)	(0.966)
Leverage	0.1584***	0.1896***	0.0733***	0.3458 ***	0.2606 ***	0.1584 ***	0.1860 ***	0.0745 ***	0.3424 ***	0.2587 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
MTB	-0.0015***	-0.0021***	-0.0005***	-0.0036 ***	-0.0027 ***	-0.0015 ***	-0.0021 ***	-0.0005 ***	-0.0036 ***	-0.0026 ***
	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)
ROA	-0.6854***	-0.2170***	-0.3474***	-0.8825 ***	-0.5358 ***	-0.6854 ***	-0.2245 ***	-0.3449 ***	-0.8896 ***	-0.5399 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Firm_Age	0.0012	0.0080	0.0045**	0.0081	0.0114	0.0012	0.0072	0.0048 **	0.0075	0.0110
	(0.868)	(0.395)	(0.040)	(0.590)	(0.217)	(0.867)	(0.438)	(0.031)	(0.620)	(0.232)

Big4	0.0005	-0.0016	0.0010	-0.0017	-0.0015	0.0005	-0.0012	0.0009	-0.0012	-0.0012
	(0.945)	(0.869)	(0.755)	(0.915)	(0.885)	(0.945)	(0.907)	(0.794)	(0.938)	(0.906)
SOX	0.0001	0.0006	0.0053	0.0003	0.0054	0.0001	-0.0024	0.0063 *	-0.0026	0.0038
	(0.986)	(0.931)	(0.128)	(0.981)	(0.512)	(0.985)	(0.747)	(0.068)	(0.844)	(0.647)
Z_Score	0.0285***	0.0262***	0.0028	0.0544 ***	0.0283 ***	0.0285 ***	0.0245 ***	0.0034	0.0528 ***	0.0274 ***
	(<0.001)	(0.002)	(0.343)	(<0.001)	(0.001)	(<0.001)	(0.003)	(0.254)	(<0.001)	(0.001)
Loss	-0.0345***	-0.0391***	0.0005	-0.0722 ***	-0.0360 ***	-0.0345 ***	-0.0365 ***	-0.0004	-0.0698 ***	-0.0346 ***
	(<0.001)	(<0.001)	(0.828)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.870)	(<0.001)	(<0.001)
NOA	-0.0181***	0.0166**	-0.0150***	-0.0026	0.0010	-0.0181 ***	0.0157 **	-0.0147 ***	-0.0034	0.0005
	(0.003)	(0.020)	(<0.001)	(0.833)	(0.892)	(0.003)	(0.027)	(<0.001)	(0.779)	(0.945)
M&A	0.0137**	-0.0072	0.0063***	0.0054	-0.0009	0.0137 **	-0.0070	0.0062 ***	0.0056	-0.0008
	(0.015)	(0.283)	(0.001)	(0.632)	(0.900)	(0.015)	(0.293)	(0.001)	(0.621)	(0.910)
Restruct	-0.0168***	-0.0205***	0.0025	-0.0367 ***	-0.0178 ***	-0.0168 ***	-0.0206 ***	0.0025	-0.0369 ***	-0.0179 ***
	(0.002)	(0.002)	(0.170)	(0.001)	(0.009)	(0.002)	(0.002)	(0.161)	(0.001)	(0.008)
ABS_DA						0.0006	-0.1665 ***	0.0561 ***	**-0.1568** **	**-0.0892** *
						(0.988)	(0.001)	(0.007)	(0.037)	(0.071)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1914	0.0805	0.3027	0.1291	0.1644	0.1913	0.0832	0.3043	0.1298	0.1649

Table 10 Relation between Ratings Conservatism and Total Earnings Management (Testing H1 using *TEM1*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *TEM1* as a dependent variable. To examine the effect of ratings conservatism on overall earnings management, I follow Chan et al. (2015) and construct two measures, *TEM1* and *TEM2*. The *TEM1* is the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM1*). The main variable of interest is *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Intercept	0.0621***	0.0699	0.0642	-0.0161	0.0588***	0.0798	0.0743	0.0007
	(<0.001)	(0.189)	(0.236)	(0.774)	(<0.001)	(0.126)	(0.160)	(0.990)
Lagged_Rat_Diff_Firm	**0.0057*****	**0.0027****	**0.0027****	**0.0033*****				
	(<0.001)	(0.011)	(0.013)	(0.003)				
Lagged_Rat_Diff_Ind					**0.0042*****	**0.0023****	**0.0023****	**0.0026****
					(<0.001)	(0.020)	(0.025)	(0.013)
Size		0.0019	0.0021	0.0068		0.0006	0.0008	0.0048
		(0.724)	(0.703)	(0.245)		(0.911)	(0.890)	(0.404)
Leverage		0.2065***	0.2098***	0.3194***		0.2116***	0.2147***	0.3244***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
MTB		-0.0033***	-0.0033***	-0.0034***		-0.0033	-0.0033***	-0.0034***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
ROA		-0.8782***	-0.8880***	-0.9264***		-0.8795***	-0.8892***	-0.9276***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
Firm_Age		0.0015	0.0017	0.0052		0.0004	0.0006	0.0039
		(0.923)	(0.909)	(0.731)		(0.981)	(0.967)	(0.797)

Big4		0.0035	0.0032	0.0012		0.0032	0.0030	0.0012
		(0.834)	(0.849)	(0.938)		(0.847)	(0.858)	(0.939)
SOX		-0.0080	-0.0194	-0.0202		-0.0070	-0.0178	-0.0180
		(0.370)	(0.146)	(0.133)		(0.428)	(0.179)	(0.175)
Z_Score		0.0500***	0.0501 ***	0.0454 ***		0.0489 ***	0.0490 ***	0.0443 ***
		(<0.001)	(<0.001)	(0.002)		(0.001)	(0.001)	(0.002)
Loss		-0.0497***	-0.0494 ***	-0.0579 ***		-0.0490 ***	-0.0487 ***	-0.0569 ***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
NOA		0.0017	0.0010	-0.0075		0.0013	0.0006	-0.0080
		(0.887)	(0.936)	(0.539)		(0.911)	(0.961)	(0.515)
M&A		0.0109	0.0163	0.0069		0.0106	0.0158	0.0064
		(0.279)	(0.141)	(0.544)		(0.293)	(0.155)	(0.571)
Restruct		-0.0198*	-0.0191 *	-0.0377 ***		-0.0201 *	-0.0194 *	-0.0375 ***
		(0.067)	(0.088)	(0.001)		(0.063)	(0.084)	(0.001)
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0135	0.1087	0.1091	0.1419	0.0072	0.1084	0.1087	0.1410

Table 11 Relation between Ratings Conservatism and Total Earnings Management (Testing H1 using *TEM2*) (CHAPTER 5)

This table reports the results of pooled OLS regression with *TEM2* as dependent variables. As in Table 10, I generate an overall earnings management proxy, *TEM2*. The *TEM2* is the sum of the signed discretionary accruals (*DA*) and the aggregate real earnings management (*REM2*).The main variable of interest is *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Intercept	0.0568***	0.1095***	0.1016***	0.0453	0.0542***	0.1145***	0.1066***	0.0544
	(<0.001)	(0.001)	(0.003)	(0.192)	(<0.001)	(<0.001)	(0.001)	(0.109)
Lagged_Rat_Diff_Firm	**0.0045*****	**0.0015****	**0.0014****	**0.0018****				
	(<0.001)	(0.025)	(0.033)	(0.011)				
Lagged_Rat_Diff_Ind					**0.0031*****	**0.0013****	**0.0012****	**0.0014****
					(<0.001)	(0.035)	(0.049)	(0.034)
Size		-0.0046	-0.0046	-0.0014		-0.0053	-0.0053	-0.0025
		(0.178)	(0.186)	(0.693)		(0.116)	(0.122)	(0.476)
Leverage		0.1477***	0.1492***	0.2365***		0.1506***	0.1519***	0.2392***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
MTB		-0.0024***	-0.0023***	-0.0025***		-0.0024	-0.0023***	-0.0025***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
ROA		-0.5466***	-0.5547***	-0.5803***		-0.5472***	-0.5552***	-0.5810***
		(<0.001)	(<0.001)	(<0.001)		(<0.001)	(<0.001)	(<0.001)
Firm_Age		0.0050	0.0050	0.0079		0.0044	0.0045	0.0072
		(0.592)	(0.591)	(0.399)		(0.634)	(0.632)	(0.442)

Big4		0.0030	0.0031	0.0015		0.0028	0.0030	0.0015
		(0.792)	(0.784)	(0.888)		(0.803)	(0.792)	(0.889)
SOX		-0.0108*	-0.0133	-0.0141		-0.0104 *	-0.0126	-0.0129
		(0.060)	(0.127)	(0.108)		(0.069)	(0.146)	(0.137)
Z_Score		0.0218**	0.0218 **	0.0188 **		0.0212 **	0.0212 **	0.0182 **
		(0.014)	(0.014)	(0.033)		(0.017)	(0.017)	(0.039)
Loss		-0.0154**	-0.0148 **	-0.0213 ***		-0.0150 **	-0.0144 **	-0.0208 ***
		(0.029)	(0.036)	(0.002)		(0.033)	(0.041)	(0.002)
NOA		0.0032	0.0027	-0.0042		0.0030	0.0025	-0.0044
		(0.662)	(0.716)	(0.573)		(0.680)	(0.735)	(0.551)
M&A		0.0043	0.0079	0.0004		0.0041	0.0076	0.0001
		(0.489)	(0.248)	(0.956)		(0.508)	(0.265)	(0.984)
Restruct		-0.0068	-0.0056	-0.0187 ***		-0.0070	-0.0058	-0.0186 ***
		(0.315)	(0.422)	(0.006)		(0.302)	(0.410)	(0.007)
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0195	0.1383	0.1399	0.1845	0.0094	0.1381	0.1397	0.1839

Table 12 Investment- Grade (IG) and Speculative-Grade (SG) Firms

(Testing H2 using the ratings conservatism measure, *Rat_Diff_Firm*) (CHAPTER 5)

This table shows the results of pooled OLS regression with *ABS_DA* as a dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm*. I investigate the negative relation between ratings conservatism and earnings management varies across investment- and speculative-grade issuers. To do this, I split sample firms into two subsamples: one includes investment-grade firms and the other includes speculative-grade firms. The investment-grade firms have debt ratings of BBB- or above and the speculative-grade firms have debt ratings of below BBB-. I use a sample of 4,436 firm-year observations for columns (1), (3), and (5) between 1997 and 2014. I use a sample of 5,401 firm-year observations for columns (2), (4), and (6) for the same period. I use robust standard errors clustered at the firm level. The p-values are in parentheses. *, **, *** denote the statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***ADS_DA***					
Explanatory variables	**IG (1)**	**SG (2)**	**IG (3)**	**SG (4)**	**IG (5)**	**SG (6)**
Intercept	0.0581***	0.1096***	0.0582 ***	0.1081 ***	0.0577 ***	0.1082 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Lagged_Rat_Diff_Firm	**-0.0000**	**-0.0007****	**-0.0001**	**-0.0007** **	**-0.0001**	**-0.0007** **
	(0.767)	(0.012)	(0.716)	(0.017)	(0.675)	(0.017)
Size	-0.0003	-0.0027***	-0.0004	-0.0026 ***	-0.0003	-0.0027 ***
	(0.691)	(0.002)	(0.631)	(0.002)	(0.648)	(0.002)
Leverage	0.0035	-0.0248***	0.0012	-0.0225 ***	-0.0015	-0.0211 ***
	(0.694)	(0.002)	(0.896)	(0.005)	(0.870)	(0.009)
MTB	-0.0000	0.0002	-0.0000	0.0002	-0.0000	0.0002
	(0.760)	(0.242)	(0.878)	(0.251)	(0.999)	(0.271)
ROA	0.0343**	-0.0816***	0.0414 ***	-0.0854 ***	0.0480 ***	-0.0854 ***
	(0.015)	(<0.001)	(0.004)	(<0.001)	(0.001)	(<0.001)
Firm_Age	-0.0043***	-0.0029	-0.0042 ***	-0.0026	-0.0043 ***	-0.0025
	(0.007)	(0.119)	(0.007)	(0.158)	(0.007)	(0.182)

Big4	-0.0017	0.0056*	-0.0015	0.0056 *	-0.0015	0.0055 *
	(0.666)	(0.056)	(0.686)	(0.058)	(0.692)	(0.063)
SOX	0.0091**	-0.0196***	0.0092 **	-0.0194 ***	0.0093 **	-0.0195 ***
	(0.024)	(<0.001)	(0.023)	(<0.001)	(0.022)	(<0.001)
Z_Score	-0.0003	-0.0099***	-0.0007	-0.0098 ***	-0.0010	-0.0099 ***
	(0.947)	(<0.001)	(0.874)	(<0.001)	(0.823)	(<0.001)
Loss	0.0239***	0.0095***	0.0242 ***	0.0092 ***	0.0245 ***	0.0094 ***
	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)
NOA	-0.0045***	-0.0059***	-0.0044 ***	-0.0056 ***	-0.0044 ***	-0.0056 ***
	(<0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
M&A	-0.0000	0.0005	-0.0001	0.0005	-0.0001	0.0003
	(0.977)	(0.829)	(0.965)	(0.839)	(0.973)	(0.880)
Restruct	-0.0010	-0.0002	-0.0008	-0.0004	-0.0006	-0.0004
	(0.430)	(0.933)	(0.535)	(0.825)	(0.618)	(0.850)
REM1			**0.0042**	**-0.0117** ***		
			(0.205)	(0.009)		
REM2					**0.0129** **	**-0.0216** ***
					(0.023)	(0.004)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4,436	5,401	4,436	5,401	4,436	5,401
Adjusted R^2	0.1043	0.0983	0.1048	0.1002	0.1067	0.1009
Test of equal coefficients for *Rat_Diff_Firm* between investment- and speculative-grade subsamples	**χ^2 = 4.45 (*p-value* = 0.035)**		**χ^2 = 3.88 (*p-value* = 0.049)**		**χ^2 = 3.79 (*p-value* = 0.052)**	

Table 13 Investment- Grade (IG) and Speculative-Grade (SG) Firms

(Testing H2 using the ratings conservatism measure, *Rat_Diff_Ind*) (CHAPTER 5)

This table shows the results of pooled OLS regression with *ABS_DA* as a dependent variable. The main variable of interest is *Lagged_Rat_Diff_Ind*. I investigate the negative relation between ratings conservatism and earnings management varies across investment- and speculative-grade issuers. To do this, I split sample firms into two subsamples: one includes investment-grade firms and the other includes speculative-grade firms. The investment-grade firms have debt ratings of BBB- or above and the speculative-grade firms have debt ratings of below BBB-. I use a sample of 4,436 firm-year observations for columns (1), (3), and (5) between 1997 and 2014. I use a sample of 5,401 firm-year observations for columns (2), (4), and (6) for the same period. I use robust standard errors clustered at the firm level. The p-values are in parentheses. *, **, *** denote the statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***ADS_DA***					
Explanatory variables	**IG** **(1)**	**SG** **(2)**	**IG** **(3)**	**SG** **(4)**	**IG** **(5)**	**SG** **(6)**
Intercept	0.0580***	0.1069***	0.0580 ***	0.1057 ***	0.0575 ***	0.1057 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Lagged_Rat_Diff_Ind	**-0.0000**	**-0.0009*****	**-0.0000**	**-0.0009** ***	**-0.0000**	**-0.0009** ***
	(0.791)	(0.001)	(0.744)	(0.002)	(0.698)	(0.002)
Size	-0.0003	-0.0023***	-0.0003	-0.0023 ***	-0.0003	-0.0023 ***
	(0.703)	(0.008)	(0.645)	(0.009)	(0.664)	(0.007)
Leverage	0.0035	-0.0264***	0.0011	-0.0240 ***	-0.0016	-0.0226 ***
	(0.700)	(0.001)	(0.902)	(0.003)	(0.863)	(0.005)
MTB	-0.0000	0.0002	-0.0000	0.0002	-0.0000	0.0002
	(0.758)	(0.243)	(0.876)	(0.251)	(0.999)	(0.271)
ROA	0.0344**	-0.0827***	0.0414 ***	-0.0864 ***	0.0481 ***	-0.0864 ***
	(0.015)	(<0.001)	(0.004)	(<0.001)	(0.001)	(<0.001)
Firm_Age	-0.0043***	-0.0028	-0.0042 ***	-0.0025	-0.0043 ***	-0.0024
	(0.007)	(0.133)	(0.008)	(0.173)	(0.007)	(0.199)

Big4	-0.0017	0.0056*	-0.0015	0.0056 *	-0.0015	0.0055 *
	(0.666)	(0.055)	(0.686)	(0.058)	(0.692)	(0.062)
SOX	-0.0144***	-0.0193***	-0.0143 ***	-0.0190 ***	-0.0142 ***	-0.0192 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Z_Score	-0.0003	-0.0097***	-0.0007	-0.0096 ***	-0.0009	-0.0097 ***
	(0.948)	(<0.001)	(0.875)	(<0.001)	(0.824)	(<0.001)
Loss	0.0239***	0.0093***	0.0242 ***	0.0090 ***	0.0244 ***	0.0092 ***
	(<0.001)	(0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)
NOA	-0.0045***	-0.0059***	-0.0044 ***	-0.0056 ***	-0.0044 ***	-0.0056 ***
	(<0.001)	(<0.001)	(0.001)	(0.001)	(0.001)	(0.001)
M&A	-0.0000	0.0006	-0.0001	0.0006	-0.0001	0.0005
	(0.977)	(0.777)	(0.965)	(0.789)	(0.973)	(0.830)
Restruct	-0.0010	-0.0002	-0.0008	-0.0005	-0.0006	-0.0004
	(0.430)	(0.902)	(0.534)	(0.796)	(0.617)	(0.820)
REM1			**0.0042**	**-0.0116** ***		
			(0.206)	(0.010)		
REM2					**0.0129** **	**-0.0215** ***
					(0.023)	(0.004)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4,436	5,401	4,436	5,401	4,436	5,401
Adjusted R^2	0.1043	0.0994	0.1048	0.1013	0.1067	0.1020
Test of equal coefficients for *Rat_Diff_Firm* between investment- and speculative-grade subsamples	**χ^2 = 8.37 (*p-value* = 0.004)**		**χ^2 = 7.69 (*p-value* = 0.006)**		**χ^2 = 7.61 (*p-value* = 0.006)**	

Table 14 Investment- Grade (IG) and Speculative-Grade (SG) Firms (Testing H2 using *REM1*) (CHAPTER 5)

This table shows the results of pooled OLS regression with *REM1* as a dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm* and Lagged*_Rat_Diff_Ind*. I investigate the negative relation between ratings conservatism and earnings management varies across investment- and speculative-grade issuers. To do this, I split sample firms into two subsamples: one includes investment-grade firms and the other includes speculative-grade firms. The investment-grade firms have debt ratings of BBB- or above and the speculative-grade firms have debt ratings of below BBB-. I use a sample of 4,436 firm-year observations for columns (1), (3), (5), and (7) between 1997 and 2014. I use a sample of 5,401 firm-year observations for columns (2), (4), (6), and (8) for the same period. I use robust standard errors clustered at the firm level. The p-values are in parentheses. *, **, *** denote the statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***REM1***							
Explanatory variables	**IG (1)**	**SG (2)**	**IG (3)**	**SG (4)**	**IG (5)**	**SG (6)**	**IG (7)**	**SG (8)**
Intercept	-0.0186	-0.1218***	-0.0298	-0.1004 *	-0.0102	-0.1108 *	-0.0213	-0.0900
	(0.871)	(0.043)	(0.798)	(0.095)	(0.928)	(0.063)	(0.853)	(0.131)
Lagged_Rat_Diff_Firm	**0.0022**	**0.0032****	**0.0022**	**0.0031** **				
	(0.151)	(0.042)	(0.149)	(0.050)				
Lagged_Rat_Diff_Ind					**0.0018**	**0.0028** *	**0.0018**	**0.0027** *
					(0.185)	(0.081)	(0.183)	(0.098)
Size	0.0154	0.0045	0.0154	0.0040	0.0143	0.0033	0.0143	0.0029
	(0.127)	(0.471)	(0.126)	(0.523)	(0.149)	(0.597)	(0.148)	(0.647)
Leverage	0.5511***	0.2000***	0.5504 ***	0.1951 ***	0.5544 ***	0.2038 ***	0.5537 ***	0.1987 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
MTB	-0.0059***	-0.0004	-0.0059 ***	-0.0003	-0.0059	-0.0004	-0.0059 ***	-0.0003
	(<0.001)	(0.640)	(<0.001)	(0.675)	(<0.001)	(0.648)	(<0.001)	(0.683)
ROA	-1.6922***	-0.3242***	-1.6988 ***	-0.3401 ***	-1.6942 ***	-0.3208 ***	-1.7008 ***	-0.3368 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)

Firm_Age	-0.0101	0.0234	-0.0093	0.0228	-0.0109	0.0228	-0.0101	0.0223
	(0.681)	(0.153)	(0.705)	(0.163)	(0.659)	(0.162)	(0.682)	(0.173)
Big4	-0.0247	-0.0013	-0.0244	-0.0002	-0.0246	-0.0015	-0.0243	-0.0004
	(0.435)	(0.937)	(0.442)	(0.989)	(0.437)	(0.931)	(0.443)	(0.982)
SOX	-0.0227	0.0200	-0.0245	0.0162	-0.0304	0.0208	-0.0276	0.0170
	(0.290)	(0.173)	(0.260)	(0.274)	(0.212)	(0.156)	(0.249)	(0.248)
Z_Score	0.0947***	0.0093	0.0947 ***	0.0073	0.0945 ***	0.0083	0.0945 ***	0.0064
	(<0.001)	(0.498)	(<0.001)	(0.591)	(<0.001)	(0.544)	(<0.001)	(0.638)
Loss	-0.0778***	-0.0244**	-0.0824 ***	-0.0226 **	-0.0776 ***	-0.0235 **	-0.0822 ***	-0.0217 **
	(<0.001)	(0.020)	(<0.001)	(0.030)	(<0.001)	(0.025)	(<0.001)	(0.037)
NOA	-0.0287	0.0208	-0.0279	0.0197	-0.0288	0.0204	-0.0280	0.0192
	(0.110)	(0.121)	(0.121)	(0.142)	(0.108)	(0.129)	(0.119)	(0.150)
M&A	0.0060	-0.0024	0.0060	-0.0023	0.0060	-0.0033	0.0060	-0.0031
	(0.724)	(0.847)	(0.724)	(0.853)	(0.723)	(0.790)	(0.723)	(0.798)
Restruct	-0.0528***	-0.0221	-0.0526 ***	-0.0221	-0.0528 ***	-0.0218	-0.0526 ***	-0.0219
	(0.001)	(0.109)	(0.001)	(0.108)	(0.001)	(0.114)	(0.001)	(0.113)
ABS_DA			**0.1920**	**-0.1957** ***			**0.1917**	**-0.1945** ***
			(0.219)	(0.008)			(0.220)	(0.008)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4,436	5,401	4,436	5,401	4,436	5,401	4,436	5,401
Adjusted R^2	0.2838	0.0858	0.2842	0.0877	0.2836	0.0854	0.2840	0.0873
Test of equal coefficients for *Rat_Diff_Firm* (*Rat_Diff_Ind*) between investment- and speculative-grade subsamples	**χ^2 = 0.21 (*p-value* = 0.647)**		**χ^2 = 0.16 (*p-value* = 0.694)**		**χ^2 = 0.27 (*p-value* = 0.603)**		**χ^2 = 0.19 (*p-value* = 0.662)**	

Table 15 Investment- Grade (IG) and Speculative-Grade (SG) Firms

(Testing H2 using *REM2*) (CHAPTER 5)

This table shows the results of pooled OLS regression with *REM2* as dependent variables. The main variable of interest is *Lagged_Rat_Diff_Firm* and Lagged*_Rat_Diff_Ind*. I investigate the negative relation between ratings conservatism and earnings management varies across investment- and speculative-grade issuers. To do this, I split sample firms into two subsamples: one includes investment-grade firms and the other includes speculative-grade firms. The investment-grade firms have debt ratings of BBB- or above and the speculative-grade firms have debt ratings of below BBB-. I use a sample of 4,436 firm-year observations for columns (1), (3), (5), and (7) between 1997 and 2014. I use a sample of 5,401 firm-year observations for columns (2), (4), (6), and (8) for the same period. I use robust standard errors clustered at the firm level. The p-values are in parentheses. *, **, *** denote the statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). All variables are defined in Appendix B.

	Dependent variable: ***REM2***							
Explanatory variables	**IG (1)**	**SG (2)**	**IG (3)**	**SG (4)**	**IG (5)**	**SG (6)**	**IG (7)**	**SG (8)**
Intercept	0.0328	-0.0628*	0.0196	-0.0471	0.0356	-0.0566	0.0224	-0.0413
	(0.637)	(0.093)	(0.782)	(0.206)	(0.605)	(0.123)	(0.749)	(0.259)
Lagged_Rat_Diff_Firm	**0.0013**	**0.0018***	**0.0013**	**0.0017** *				
	(0.176)	(0.062)	(0.171)	(0.075)				
Lagged_Rat_Diff_Ind					**0.0011**	**0.0015**	**0.0011**	**0.0014**
					(0.173)	(0.127)	(0.168)	(0.157)
Size	0.0034	-0.0013	0.0035	-0.0017	0.0030	-0.0019	0.0030	-0.0023
	(0.567)	(0.743)	(0.558)	(0.670)	(0.608)	(0.615)	(0.599)	(0.556)
Leverage	0.3907***	0.1739***	0.3899 ***	0.1704 ***	0.3929 ***	0.1759 ***	0.3922 ***	0.1722 ***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
MTB	-0.0039***	-0.0006	-0.0039 ***	-0.0006	-0.0039	-0.0006	-0.0038 ***	-0.0006
	(<0.001)	(0.213)	(<0.001)	(0.233)	(<0.001)	(0.218)	(<0.001)	(0.239)
ROA	-1.0632***	-0.1766***	-1.0710 ***	-0.1883 ***	-1.0640 ***	-0.1747 ***	-1.0719 ***	-0.1865 ***
	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)

Firm_Age	0.0002	0.0201**	0.0011	0.0197 *	-0.0002	0.0198 **	0.0008	0.0194 *
	(0.992)	(0.046)	(0.940)	(0.051)	(0.990)	(0.049)	(0.959)	(0.054)
Big4	-0.0111	-0.0038	-0.0107	-0.0030	-0.0111	-0.0039	-0.0107	-0.0031
	(0.551)	(0.736)	(0.564)	(0.790)	(0.552)	(0.731)	(0.565)	(0.785)
SOX	-0.0101	0.0039	-0.0122	0.0011	-0.0165	0.0044	-0.0133	0.0017
	(0.441)	(0.686)	(0.356)	(0.912)	(0.270)	(0.642)	(0.373)	(0.861)
Z_Score	0.0523***	0.0003	0.0524 ***	-0.0011	0.0523 ***	-0.0003	0.0523 ***	-0.0016
	(0.002)	(0.973)	(0.002)	(0.891)	(0.002)	(0.975)	(0.002)	(0.843)
Loss	-0.0446***	-0.0036	-0.0500 ***	-0.0022	-0.0445 ***	-0.0031	-0.0500 ***	-0.0018 **
	(<0.001)	(0.577)	(<0.001)	(0.728)	(<0.001)	(0.632)	(<0.001)	(0.784)
NOA	-0.0137	0.0144*	-0.0127	0.0135 *	-0.0137	0.0141 *	-0.0127	0.0133 *
	(0.203)	(0.071)	(0.238)	(0.089)	(0.202)	(0.076)	(0.237)	(0.094)
M&A	0.0007	-0.0067	0.0007	-0.0067	0.0007	-0.0072	0.0007	-0.0071
	(0.947)	(0.376)	(0.946)	(0.380)	(0.945)	(0.339)	(0.945)	(0.344)
Restruct	-0.0292***	-0.0092	-0.0290 ***	-0.0092	-0.0292 ***	-0.0091	-0.0290	-0.0091
	(0.001)	(0.279)	(0.002)	(0.277)	(0.001)	(0.287)	(0.002)	(0.284)
ABS_DA			**0.2272** **	**-0.1434** ***			**0.2271** **	**-0.1429** ***
			(0.027)	(0.003)			(0.027)	(0.003)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4,436	5,401	4,436	5,401	4,436	5,401	4,436	5,401
Adjusted R^2	0.3089	0.1106	0.3108	0.1132	0.3089	0.1102	0.3108	0.1128
Test of equal coefficients for *Rat_Diff_Firm* (*Rat_Diff_Ind*) between investment- and speculative-grade subsamples	**χ^2 = 0.16 (*p-value* = 0.691)**		**χ^2 = 0.10 (*p-value* = 0.750)**		**χ^2 = 0.11 (*p-value* = 0.741)**		**χ^2 = 0.05 (*p-value* = 0.819)**	

Table 16 Potential Sample Selection Bias

(Testing H1 using the ratings conservatism measure, *Rat_Diff_Firm*) (CHAPTER 6)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm*. I use a sample of 9,837, 5,548, and 4,289 firm-year observations for *ABS_DA*, *Positive_DA*, and *Negative_DA*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:					
Key explanatory variables	***ABS_DA*** **(1)**	***Positive_DA*** **(2)**	***Negative_DA*** **(3)**	***ABS_DA*** **(4)**	***Positive_DA*** **(5)**	***Negative_DA*** **(6)**
Lagged_Rat_Diff_Firm	**-0.0002****	**-0.0000**	**0.0004****	**-0.0002****	**-0.0001**	**0.0003***
	(0.038)	(0.890)	(0.020)	(0.032)	(0.414)	(0.064)
REM1	**-0.0068****	**0.0044**	**0.0159*****			
	(0.020)	(0.133)	(<0.001)			
REM2				**-0.0119****	**0.0345*****	**0.0580*****
				(0.014)	(<0.001)	(<0.001)
IMR	**-0.0030**	**0.0260**	**0.0108**	**0.0204**	**-0.0051**	**-0.0483**
	(0.936)	(0.497)	(0.823)	(0.426)	(0.843)	(0.171)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1240	0.0971	0.2320	0.1243	0.1106	0.2509

Table 16 (Continued) Potential Sample Selection Bias

(Testing H1 using the ratings conservatism measure, *Rat_Diff_Ind*) (CHAPTER 6)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Ind*. I use a sample of 9,837, 5,548, and 4,289 firm-year observations for *ABS_DA*, *Positive_DA*, and *Negative_DA*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:					
Key explanatory variables	***ABS_DA*** **(1)**	***Positive_DA*** **(2)**	***Negative_DA*** **(3)**	***ABS_DA*** **(4)**	***Positive_DA*** **(5)**	***Negative_DA*** **(6)**
Lagged_Rat_Diff_Ind	**-0.0002****	**-0.0001**	**0.0003***	**-0.0002****	**-0.0002***	**0.0002**
	(0.042)	(0.277)	(0.095)	(0.040)	(0.076)	(0.223)
REM1	**-0.0069****	**0.0045**	**0.0162*****			
	(0.019)	(0.117)	(<0.001)			
REM2				**-0.0121****	**0.0347*****	**0.0584*****
				(0.014)	(<0.001)	(<0.001)
IMR	**0.0040**	**0.0228**	**0.0111**	**0.0194**	**-0.0055**	**-0.0473**
	(0.914)	(0.553)	(0.820)	(0.453)	(0.832)	(0.184)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1240	0.0973	0.2315	0.1242	0.1110	0.2505

Table 16 (Continued) Potential Sample Selection Bias

(Testing H1 using two ratings conservatism proxies) (CHAPTER 6)

This table reports the results of pooled OLS regression with *REM1* and *REM2* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. I use a sample of 9,837 firm-year observations between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% level s. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

Key explanatory variables	Dependent variables:			
	REM1	***REM2***	***REM1***	***REM2***
	(1)	**(2)**	**(3)**	**(4)**
Lagged_Rat_Diff_Firm	**0.0030***** (0.004)	**0.0019***** (0.003)		
Lagged_Rat_Diff_Ind			**0.0022** ** (0.025)	**0.0015** ** (0.017)
ABS_DA	**-0.2060***** (0.006)	**-0.1349***** (0.006)	**-0.2073** *** (0.006)	**-0.1357** *** (0.006)
IMR	**0.1219** (0.617)	**0.1771** (0.113)	**0.1052** (0.665)	**0.1803** (0.107)
Control variables and Intercept	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837
Adjusted R^2	0.1174	0.1490	0.1162	0.1481

Table 17 Additional Analysis

Relation between Ratings Conservatism and Earnings Smoothing (CHAPTER 7)

This table reports the results of pooled OLS regression with *EM_SMOOTH1*, *EM_SMOOTH2*, and *EM_SMOOTH3* as each dependent variable. The main variable of interest is *Lagged_Rat_Diff_Firm* and *Lagged_Rat_Diff_Ind*. I use a sample of 8,553, 8,534, and 8,453 firm-year observations for *EM_SMOOTH1*, *EM_SMOOTH2*, and *EM_SMOOTH3*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:					
Key explanatory variables	*EM_SMOOTH1*		*EM_SMOOTH2*		*EM_SMOOTH3*	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Lagged_Rat_Diff_Firm	**0.0003**		**-0.0007**		**-0.0006**	
	(0.741)		(0.503)		(0.540)	
Lagged_Rat_Diff_Ind		**0.0007**		**0.0000**		**0.0004**
		(0.436)		(0.968)		(0.661)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,553	8,553	8,534	8,534	8,453	8,453
Adjusted R^2	0.0691	0.0692	0.0366	0.0365	0.0526	0.0526

Table 17 (Continued) Additional Analysis

Descriptive Statistics (CHAPTER 7)

This table shows descriptive statistics for earnings smoothing measures in equations (10)-(12). My sample period is between 1997 and 2014. All variables are defined in Appendix B.

Variable	N	Mean	Std. Dev.	Median	Minimum	Maximum
$\sigma(Earnings)/\sigma(CFO)$	9,981	1.7280	2.6982	0.8790	0.0604	18.2320
$\rho(\Delta ACC, \Delta CFO)$	9,962	-0.5343	0.6218	-0.8702	-1.0000	1.0000
$\rho(\Delta DA, \Delta PDI)$	9,874	-0.5798	0.6110	-0.9063	-1.0000	1.0000

Table 18 Additional Analysis

Relation between Ratings Conservatism and Asymmetric Timely Loss Recognition (CHAPTER 7)

This table reports the results of pooled OLS regression with *NI*, *ACC*, and *C_Score* as each dependent variable. I use a sample of 12,199, 11,509, and 11,147 firm-year observations for *NI*, *ACC*, and *C_Score*, respectively, between 1997 and 2014. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

Key explanatory variables	Dependent variables:					
	NI		***ACC***		***C_Score***	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
D*RET*Lagged_Rat_Diff_Firm	**0.0785** (0.430)					
D*RET*Lagged_Rat_Diff_Ind		**0.0213** (0.817)				
DCFO*CFO*Lagged_Rat_Diff_Firm			**-0.0009** (0.968)			
DCFO*CFO*Lagged_Rat_Diff_Ind				**0.0414** *** (0.005)		
Lagged_Rat_Diff_Firm					**-0.0006** * (0.096)	
Lagged_Rat_Diff_Ind						**-0.0008** ** (0.017)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	12,199	12,199	11,509	11,509	11,147	11,147
Adjusted R^2	0.0907	0.0936	0.3259	0.3275	0.4733	0.4734

Table 19

Alternative Measures of Accrual-Based Earnings Management 1: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Cohen et al. (2008). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Firm	**-0.0003**** (0.042)	-0.0000 (0.797)	0.0004** (0.024)	**-0.0002** * (0.065)	-0.0000 (0.724)	0.0004 ** (0.049)	**-0.0002** * (0.054)	-0.0001 (0.456)	0.0003 * (0.092)
REM1				**-0.0054** * (0.064)	0.0044 (0.134)	0.0134 *** (0.003)			
REM2							**-0.0075** * (0.096)	0.0346 *** (<0.001)	0.0508 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,566	4,271	9,837	5,566	4,271	9,837	5,566	4,271
Adjusted R^2	0.1136	0.0919	0.2186	0.1142	0.0924	0.2217	0.1140	0.1061	0.2368

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind	**-0.0003***** (0.009)	-0.0002 (0.114)	0.0004** (0.035)	**-0.0003** ** (0.013)	-0.0002 * (0.091)	0.0003 * (0.058)	**-0.0003** ** (0.012)	-0.0002 ** (0.035)	0.0003 * (0.093)
REM1				**-0.0053** * (0.067)	0.0046 (0.117)	0.0135 *** (0.003)			
REM2							**-0.0075** * (0.092)	0.0350 *** (<0.001)	0.0509 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,566	4,271	9,837	5,566	4,271	9,837	5,566	4,271
Adjusted R^2	0.1139	0.0924	0.2184	0.1145	0.0929	0.2217	0.1143	0.1068	0.2368

Table 19 (Continued)

Alternative Measures of Accrual-Based Earnings Management 1: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Cohen et al. (2008). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0022***	0.0013**	0.0007***	0.0036 ***	0.0020 **	0.0022 ***	0.0013 **	0.0007 ***	**0.0035** ***	**0.0020** ***
	(<0.001)	(0.042)	(0.003)	(0.001)	(0.003)	(<0.001)	(0.049)	(0.003)	(0.002)	(0.004)
ABS_DA						0.0097	-0.1569 ***	0.0618 ***	**-0.1397** *	**-0.0764** *
						(0.784)	(0.001)	(0.003)	(0.059)	(0.094)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1918	0.0812	0.3017	0.1299	0.1649	0.1917	0.0836	0.3036	0.1305	0.1653

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0019***	0.0009	0.0008***	0.0029 ***	0.0017 **	0.0020 ***	0.0008	0.0008 ***	**0.0028** ***	**0.0017** **
	(<0.001)	(0.141)	(<0.001)	(0.006)	(0.010)	(<0.001)	(0.162)	(<0.001)	(0.007)	(0.011)
ABS_DA						0.0108	-0.1572 ***	0.0626 ***	**-0.1388** *	**-0.0758** *
						(0.762)	(0.001)	(0.003)	(0.061)	(0.093)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1914	0.0805	0.3027	0.1291	0.1644	0.1913	0.0829	0.3047	0.1296	0.1648

Table 19 (Continued)

Alternative Measures of Accrual-Based Earnings Management 1: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Cohen et al. (2008). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0057***** (<0.001)	**0.0027**** (0.011)	**0.0027** ** (0.013)	**0.0033** *** (0.003)				
Lagged_Rat_Diff_Ind					**0.0042** *** (<0.001)	**0.0023** ** (0.020)	**0.0023** ** (0.026)	**0.0026** ** (0.014)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0135	0.1084	0.1087	0.1420	0.0072	0.1080	0.1084	0.1411

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0045***** (<0.001)	**0.0015**** (0.025)	**0.0014** ** (0.035)	**0.0018** ** (0.011)				
Lagged_Rat_Diff_Ind					**0.0031** *** (<0.001)	**0.0013** ** (0.036)	**0.0012** * (0.051)	**0.0014** ** (0.035)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0194	0.1376	0.1392	0.1845	0.0093	0.1375	0.1390	0.1840

Table 20

Alternative Measures of Accrual-Based Earnings Management 2: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Chen et al. (2008) and Francis and Yu (2009). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

Explanatory variables	Dependent variables:								
	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Firm	**-0.0002***	0.0001	0.0005***	**-0.0002** *	0.0001	0.0004 **	**-0.0002** *	0.0000	0.0004 **
	(0.081)	(0.496)	(0.010)	(0.090)	(0.549)	(0.019)	(0.087)	(0.808)	(0.033)
REM1				**-0.0054** *	0.0040	0.0116 ***			
				(0.058)	(0.170)	(0.007)			
REM2							**-0.0081** *	0.0325 ***	0.0460 ***
							(0.090)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.1177	0.0982	0.2174	0.1183	0.0986	0.2198	0.1182	0.1106	0.2332

Explanatory variables	Dependent variables:								
	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind	**-0.0003****	-0.0001	0.0004**	**-0.0002** **	-0.0001	0.0004 **	**-0.0002** **	-0.0001	0.0003 **
	(0.018)	(0.463)	(0.015)	(0.024)	(0.411)	(0.025)	(0.023)	(0.239)	(0.035)
REM1				**-0.0054** *	0.0042	0.0117 ***			
				(0.061)	(0.151)	(0.007)			
REM2							**-0.0080** *	0.0329 ***	0.0462 ***
							(0.094)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.1180	0.0983	0.2172	0.1186	0.0987	0.2197	0.1185	0.1109	0.2332

Table 20 (Continued)

Alternative Measures of Accrual-Based Earnings Management 2: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Chen et al. (2008) and Francis and Yu (2009). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0022***	0.0013**	0.0007***	0.0036 ***	0.0020 ***	0.0022 ***	0.0013 **	0.0007 ***	**0.0035** ***	**0.0020** ***
	(<0.001)	(0.042)	(0.003)	(0.001)	(0.003)	(<0.001)	(0.047)	(0.003)	(0.002)	(0.004)
ABS_DA						0.0107	-0.1625 ***	0.0596 ***	**-0.1440** *	**-0.0843** *
						(0.766)	(0.001)	(0.005)	(0.053)	(0.085)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1918	0.0812	0.3017	0.1299	0.1649	0.1917	0.0837	0.3034	0.1305	0.1654

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0019***	0.0009	0.0008***	0.0029 ***	0.0017 ***	0.0020 ***	0.0008	0.0008 ***	**0.0028** ***	**0.0017** **
	(<0.001)	(0.141)	(<0.001)	(0.006)	(0.010)	(<0.001)	(0.159)	(<0.001)	(0.007)	(0.011)
ABS_DA						0.0119	-0.1626 ***	0.0604 ***	**-0.1428** *	**-0.0835** *
						(0.741)	(0.001)	(0.005)	(0.056)	(0.089)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1914	0.0805	0.3027	0.1291	0.1644	0.1913	0.0830	0.3045	0.1296	0.1648

Table 20 (Continued)

Alternative Measures of Accrual-Based Earnings Management 2: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I repeat my tests using a measure based on discretionary accruals proposed by Chen et al. (2008) and Francis and Yu (2009). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0059*** *** (<0.001)	**0.0028*** *** (0.009)	**0.0027** ** (0.012)	**0.0034** *** (0.003)				
Lagged_Rat_Diff_Ind					**0.0043** *** (<0.001)	**0.0024** ** (0.018)	**0.0023** ** (0.023)	**0.0026** ** (0.012)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0140	0.1090	0.1093	0.1432	0.0075	0.1086	0.1090	0.1423

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0046*** *** (<0.001)	**0.0015**** (0.019)	**0.0015** ** (0.027)	**0.0018** *** (0.008)				
Lagged_Rat_Diff_Ind					**0.0032** *** (<0.001)	**0.0013** ** (0.028)	**0.0013** ** (0.041)	**0.0014** ** (0.027)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0204	0.1392	0.1408	0.1873	0.0099	0.1391	0.1406	0.1867

Table 21

Alternative Measures of Accrual-Based Earnings Management 3: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_PMDA*, *Positive_PMDA*, and *Negative_PMDA* as each dependent variable. I repeat my tests using the performance-matched discretionary accruals proposed by Kothari et al. (2005). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_PMDA*** **(1)**	***Positive_PMDA*** **(2)**	***Negative_PMDA*** **(3)**	***ABS_PMDA*** **(4)**	***Positive_PMDA*** **(5)**	***Negative_PMDA*** **(6)**	***ABS_PMDA*** **(7)**	***Positive_PMDA*** **(8)**	***Negative_PMDA*** **(9)**
Lagged_Rat_Diff_Firm	-0.0001 (0.488)	0.0002 (0.359)	**0.0004**** (0.030)	-0.0001 (0.629)	0.0002 (0.293)	**0.0004** ** (0.043)	-0.0001 (0.643)	0.0002 (0.384)	**0.0004** * (0.071)
REM1				-0.0103 *** (0.004)	-0.0101 ** (0.022)	0.0089 * (0.071)			
REM2							-0.0191 *** (0.001)	0.0051 (0.464)	0.0403 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.0843	0.0819	0.1028	0.0854	0.0829	0.1036	0.0858	0.0819	0.1104

	Dependent variables:								
Explanatory variables	***ABS_PMDA*** **(1)**	***Positive_PMDA*** **(2)**	***Negative_PMDA*** **(3)**	***ABS_PMDA*** **(4)**	***Positive_PMDA*** **(5)**	***Negative_PMDA*** **(6)**	***ABS_PMDA*** **(7)**	***Positive_PMDA*** **(8)**	***Negative_PMDA*** **(9)**
Lagged_Rat_Diff_Ind	-0.0002* (0.082)	-0.0001 (0.786)	**0.0004**** (0.019)	-0.0002 (0.117)	-0.0000 (0.881)	**0.0004** ** (0.025)	**-0.0002** (0.122)	-0.0001 (0.755)	**0.0004** ** (0.039)
REM1				-0.0102 *** (0.004)	-0.0098 ** (0.026)	0.0089 * (0.069)			
REM2							**-0.0189** *** (0.001)	0.0056 (0.428)	0.0403 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.0845	0.0818	0.1029	0.0856	0.0827	0.1037	0.0860	0.0817	0.1106

Table 21 (Continued)

Alternative Measures of Accrual-Based Earnings Management 3: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_PMDA*, *Positive_PMDA*, and *Negative_PMDA* as each dependent variable. I repeat my tests using the performance-matched discretionary accruals proposed by Kothari et al. (2005). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0022***	0.0013**	0.0007***	0.0036 ***	0.0020 ***	0.0019 ***	0.0009	0.0007 ***	**0.0028** ***	**0.0016** ***
	(<0.001)	(0.042)	(0.003)	(0.001)	(0.003)	(<0.001)	(0.047)	(0.001)	(0.005)	(0.008)
ABS_PMDA						-0.0277	-0.1048 ***	0.0005	**-0.1283** ***	**-0.0928** ***
						(0.206)	(<0.001)	(0.966)	(0.004)	(0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1918	0.0812	0.3017	0.1299	0.1649	0.1935	0.0876	0.2995	0.1360	0.1710

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0019***	0.0009	0.0008***	0.0029 ***	0.0017 ***	0.0017 ***	0.0005	0.0008 ***	**0.0023** **	**0.0013** **
	(<0.001)	(0.141)	(<0.001)	(0.006)	(0.010)	(<0.001)	(0.352)	(<0.001)	(0.020)	(0.025)
ABS_PMDA						-0.0264	-0.1046 ***	0.0011	**-0.1268** ***	**-0.0920** ***
						(0.227)	(<0.001)	(0.920)	(0.004)	(0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1914	0.0805	0.3027	0.1291	0.1644	0.1930	0.0871	0.3003	0.1352	0.1704

Table 21 (Continued)

Alternative Measures of Accrual-Based Earnings Management 3: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I repeat my tests using the performance-matched discretionary accruals proposed by Kothari et al. (2005). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% level s. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0049***** (<0.001)	**0.0023**** (0.014)	**0.0023** ** (0.016)	**0.0027** *** (0.006)				
Lagged_Rat_Diff_Ind					**0.0036** *** (<0.001)	**0.0019** ** (0.039)	**0.0019** ** (0.045)	**0.0021** ** (0.033)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0105	0.1139	0.1146	0.1472	0.0056	0.1134	0.1141	0.1463

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0039***** (<0.001)	**0.0014**** (0.020)	**0.0013** ** (0.024)	**0.0016** ** (0.012)				
Lagged_Rat_Diff_Ind					**0.0027** *** (<0.001)	**0.0011** * (0.053)	**0.0011** * (0.067)	**0.0011** * (0.057)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0146	0.1411	0.1433	0.1858	0.0073	0.1407	0.1428	0.1851

Table 22

Alternative Measures of Accrual-Based Earnings Management 4: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_AWCA*, *Positive_AWCA*, and *Negative_AWCA* as each dependent variable. I repeat my tests using the abnormal working capital accruals proposed by Dechow and Dichev (2002). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_AWCA* (1)**	***Positive_AWCA* (2)**	***Negative_AWCA* (3)**	***ABS_AWCA* (4)**	***Positive_AWCA* (5)**	***Negative_AWCA* (6)**	***ABS_AWCA* (7)**	***Positive_AWCA* (8)**	***Negative_AWCA* (9)**
Lagged_Rat_Diff_Firm	**-0.0001*****	**-0.0001*****	0.0001	**-0.0001** ***	**-0.0001** ***	0.0001	**-0.0001** ***	**-0.0001** ***	0.0001
	(<0.001)	(<0.001)	(0.324)	(<0.001)	(<0.001)	(0.399)	(<0.001)	(<0.001)	(0.486)
REM1				**-0.0016** ***	**-0.0014** ***	0.0032 **			
				(<0.001)	(<0.001)	(0.028)			
REM2							-0.0001	0.0001	0.0096 ***
							(0.823)	(0.923)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.0931	0.1038	0.0154	0.0952	0.1055	0.0235	0.0930	0.1037	0.0504

	Dependent variables:								
Explanatory variables	***ABS_AWCA* (1)**	***Positive_AWCA* (2)**	***Negative_AWCA* (3)**	***ABS_AWCA* (4)**	***Positive_AWCA* (5)**	***Negative_AWCA* (6)**	***ABS_AWCA* (7)**	***Positive_AWCA* (8)**	***Negative_AWCA* (9)**
Lagged_Rat_Diff_Ind	**-0.0001*****	**-0.0001*****	0.0001	**-0.0001** ***	**-0.0001** ***	0.0001	**-0.0001** ***	**-0.0001** ***	0.0001
	(<0.001)	(<0.001)	(0.231)	(<0.001)	(<0.001)	(0.270)	(<0.001)	(<0.001)	(0.307)
REM1				**-0.0016** ***	**-0.0014** ***	0.0032 **			
				(<0.001)	(<0.001)	(0.028)			
REM2							-0.0002	0.0000	0.0096 ***
							(0.771)	(0.960)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,472	4,365	9,837	5,472	4,365	9,837	5,472	4,365
Adjusted R^2	0.0921	0.1030	0.0171	0.0943	0.1048	0.0252	0.0920	0.1030	0.0523

Table 22 (Continued)

Alternative Measures of Accrual-Based Earnings Management 4: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_AWCA*, *Positive_AWCA*, and *Negative_AWCA* as each dependent variable. I repeat my tests using the abnormal working capital accruals proposed by Dechow and Dichev (2002). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0022***	0.0013**	0.0007***	0.0036 ***	0.0020 ***	0.0016 ***	0.0009 *	0.0008 ***	**0.0025** ***	**0.0017** ***
	(<0.001)	(0.042)	(0.003)	(0.001)	(0.003)	(0.001)	(0.096)	(<0.001)	(0.007)	(0.003)
ABS_AWCA						-0.8732	-0.7387 ***	0.6565 ***	**-1.5503** ***	-0.0552
						(0.206)	(0.001)	(<0.001)	(<0.001)	(0.823)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1918	0.0812	0.3017	0.1299	0.1649	0.1842	0.0821	0.2725	0.1324	0.1598

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0019***	0.0009	0.0008***	0.0029 ***	0.0017 ***	0.0015 ***	0.0007	0.0008 ***	**0.0022** **	**0.0015** ***
	(<0.001)	(0.141)	(<0.001)	(0.006)	(0.010)	(0.001)	(0.201)	(<0.001)	(0.017)	(0.008)
ABS_AWCA						-0.8857	-0.7520 ***	0.6534 ***	**-1.5758** ***	-0.0719
						(0.227)	(0.001)	(<0.001)	(0.004)	(0.771)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1914	0.0805	0.3027	0.1291	0.1644	0.1838	0.0817	0.2729	0.1319	0.1593

Table 22 (Continued)

Alternative Measures of Accrual-Based Earnings Management 4: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I repeat my tests using the abnormal working capital accruals proposed by Dechow and Dichev (2002). I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0044***** (<0.001)	**0.0023**** (0.011)	**0.0022** ** (0.014)	**0.0026** *** (0.006)				
Lagged_Rat_Diff_Ind					**0.0035** *** (<0.001)	**0.0021** ** (0.017)	**0.0020** ** (0.020)	**0.0022** ** (0.015)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0094	0.0995	0.0996	0.1269	0.0058	0.0993	0.0994	0.1263

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0034***** (<0.001)	**0.0015***** (0.007)	**0.0014** *** (0.010)	**0.0016** *** (0.005)				
Lagged_Rat_Diff_Ind					**0.0026** *** (<0.001)	**0.0014** *** (0.009)	**0.0014** ** (0.013)	**0.0014** ** (0.011)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0134	0.1171	0.1183	0.1531	0.0079	0.1170	0.1182	0.1527

Table 23

Using a Three-Digit SIC Industry: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I repeat previous analyses by replacing a rating proxy based on a two-digit SIC industry with a rating proxy based on a three-digit SIC industry. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	**ABS_DA (1)**	**Positive_DA (2)**	**Negative_DA (3)**	**ABS_DA (4)**	**Positive_DA (5)**	**Negative_DA (6)**	**ABS_DA (7)**	**Positive_DA (8)**	**Negative_DA (9)**
Lagged_Rat_Diff_Firm	**-0.0002****	-0.0001	0.0004**	**-0.0002** **	-0.0001	0.0003 **	**-0.0002** **	-0.0001	0.0003 *
	(0.027)	(0.471)	(0.029)	(0.040)	(0.418)	(0.056)	(0.038)	(0.224)	(0.096)
REM1				**-0.0061** **	0.0040	0.0137 ***			
				(0.041)	(0.167)	(0.003)			
REM2							**-0.0088** *	0.0339 ***	0.0513 ***
							(0.076)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1138	0.0914	0.2167	0.1145	0.0917	0.2200	0.1144	0.1050	0.2350

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind_1	**-0.0003*****	-0.0002*	0.0003*	**-0.0003** **	-0.0002 **	0.0003 *	**-0.0003** **	-0.0003 **	0.0003
	(0.010)	(0.052)	(0.058)	(0.014)	(0.042)	(0.091)	(0.014)	(0.015)	(0.133)
REM1				**-0.0061** **	0.0042	0.0139 ***			
				(0.041)	(0.149)	(0.002)			
REM2							**-0.0088** *	0.0342 ***	0.0515 ***
							(0.077)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1140	0.0920	0.2164	0.1147	0.0924	0.2198	0.1146	0.1058	0.2349

Table 23 (Continued)

Using a Three-Digit SIC Industry: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I repeat previous analyses by replacing a rating proxy based on a two-digit SIC industry with a rating proxy based on a three-digit SIC industry. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0020***	0.0012**	0.0007***	0.0032 ***	0.0019 ***	0.0020 ***	0.0011 *	0.0007 ***	**0.0031** ***	**0.0019** ***
	(<0.001)	(0.047)	(0.001)	(0.002)	(0.003)	(<0.001)	(0.055)	(0.001)	(0.002)	(0.003)
ABS_DA						-0.0002	-0.1661 ***	0.0560 ***	**-0.1571** **	**-0.0890** *
						(0.996)	(0.001)	(0.008)	(0.036)	(0.071)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1916	0.0812	0.3019	0.1298	0.1650	0.1915	0.0838	0.3035	0.1305	0.1655

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind_1	0.0018***	0.0007	0.0008***	0.0025 ***	0.0015 **	0.0018 ***	0.0007	0.0008 ***	**0.0025** **	**0.0015** **
	(<0.001)	(0.203)	(0.001)	(0.010)	(0.013)	(<0.001)	(0.232)	(0.001)	(0.011)	(0.015)
ABS_DA						0.0003	-0.1669 ***	0.0566 **	**-0.1574** **	**-0.0891** *
						(0.993)	(0.001)	(0.007)	(0.036)	(0.072)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1911	0.0803	0.3029	0.1287	0.1641	0.1910	0.0830	0.3045	0.1294	0.1647

Table 23 (Continued)

Using a Three-Digit SIC Industry: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I repeat previous analyses by replacing a rating proxy based on a two-digit SIC industry with a rating proxy based on a three-digit SIC industry. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0051***** (<0.001)	**0.0025***** (0.010)	**0.0025** ** (0.012)	**0.0029** *** (0.004)				
Lagged_Rat_Diff_Ind_1					**0.0037** *** (<0.001)	**0.0022** ** (0.024)	**0.0021** ** (0.030)	**0.0023** ** (0.022)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0117	0.1088	0.1091	0.1417	0.0062	0.1083	0.1086	0.1407

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0040***** (<0.001)	**0.0015**** (0.017)	**0.0014** ** (0.023)	**0.0016** ** (0.011)				
Lagged_Rat_Diff_Ind_1					**0.0028** *** (<0.001)	**0.0013** ** (0.033)	**0.0012** ** (0.046)	**0.0013** ** (0.044)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0164	0.1385	0.1401	0.1845	0.0083	0.1382	0.1398	0.1854

Table 24

Alternative Cut-Off Years (1985-1997): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1998 to 2014, I employ the ratings model estimated for the period 1985 to 1997. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_DA*** **(1)**	***Positive_DA*** **(2)**	***Negative_DA*** **(3)**	***ABS_DA*** **(4)**	***Positive_DA*** **(5)**	***Negative_DA*** **(6)**	***ABS_DA*** **(7)**	***Positive_DA*** **(8)**	***Negative_DA*** **(9)**
Lagged_Rat_Diff_Firm	**-0.0002***	-0.0000	0.0004*	**-0.0002** *	-0.0000	0.0003	**-0.0002** *	-0.0001	0.0003
	(0.061)	(0.811)	(0.052)	(0.090)	(0.718)	(0.105)	(0.089)	(0.440)	(0.178)
REM1				**-0.0064** **	0.0052 *	0.0153 ***			
				(0.029)	(0.067)	(0.001)			
REM2							**-0.0104** **	0.0337 ***	0.0533 ***
							(0.035)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,122	5,135	3,987	9,122	5,135	3,987	9,122	5,135	3,987
Adjusted R^2	0.1157	0.1012	0.2146	0.1165	0.1019	0.2187	0.1166	0.1150	0.2343

	Dependent variables:								
Explanatory variables	***ABS_DA*** **(1)**	***Positive_DA*** **(2)**	***Negative_DA*** **(3)**	***ABS_DA*** **(4)**	***Positive_DA*** **(5)**	***Negative_DA*** **(6)**	***ABS_DA*** **(7)**	***Positive_DA*** **(8)**	***Negative_DA*** **(9)**
Lagged_Rat_Diff_Ind	**-0.0003****	-0.0002	0.0003*	**-0.0002** **	-0.0002	0.0003	**-0.0002** **	-0.0002 *	0.0002
	(0.018)	(0.176)	(0.068)	(0.028)	(0.140)	(0.126)	(0.028)	(0.056)	(0.203)
REM1				**-0.0064** **	0.0053 *	0.0154 ***			
				(0.030)	(0.058)	(0.001)			
REM2							**-0.0103** **	0.0340 ***	0.0534 ***
							(0.037)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,122	5,135	3,987	9,122	5,135	3,987	9,122	5,135	3,987
Adjusted R^2	0.1159	0.1015	0.2144	0.1167	0.1023	0.2186	0.1168	0.1156	0.2343

Table 24 (Continued)

Alternative Cut-Off Years (1985-1997): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1998 to 2014, I employ the ratings model estimated for the period 1985 to 1997. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0023***	0.0015**	0.0007***	0.0039 ***	0.0023 ***	0.0023 ***	0.0015 **	0.0007 ***	**0.0038** ***	**0.0022** ***
	(<0.001)	(0.022)	(0.004)	(0.001)	(0.002)	(<0.001)	(0.026)	(0.004)	(0.001)	(0.002)
ABS_DA						0.0056	-0.1659 ***	0.0387 *	**-0.1698** **	**-0.1071** **
						(0.876)	(0.001)	(0.065)	(0.025)	(0.032)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122
Adjusted R^2	0.1792	0.0589	0.2966	0.1277	0.1375	0.1928	0.0616	0.2973	0.1093	0.1384

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0021***	0.0012*	0.0008***	0.0033 ***	0.0020 ***	0.0021 ***	0.0011 *	0.0008 ***	**0.0032** ***	**0.0020** ***
	(<0.001)	(0.054)	(0.001)	(0.003)	(0.004)	(<0.001)	(0.063)	(<0.001)	(0.003)	(0.004)
ABS_DA						-0.0111	-0.1659 ***	0.0394 *	**-0.1689** **	**-0.1064** **
						(0.759)	(0.001)	(0.061)	(0.026)	(0.033)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122
Adjusted R^2	0.1789	0.0583	0.2976	0.1078	0.1372	0.1788	0.0610	0.2984	0.1087	0.1380

Table 24 (Continued)

Alternative Cut-Off Years (1985-1997): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1998 to 2014, I employ the ratings model estimated for the period 1985 to 1997. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0059*****	**0.0031*****	**0.0030** ***	**0.0036** ***				
	(<0.001)	(0.006)	(0.008)	(0.002)				
Lagged_Rat_Diff_Ind					**0.0047** ***	**0.0028** ***	**0.0027** **	**0.0030** ***
					(<0.001)	(0.008)	(0.011)	(0.006)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122
Adjusted R^2	0.0147	0.1007	0.1011	0.1237	0.0092	0.1006	0.1009	0.1230

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0047*****	**0.0018****	**0.0017** **	**0.0020** ***				
	(<0.001)	(0.011)	(0.016)	(0.006)				
Lagged_Rat_Diff_Ind					**0.0035** ***	**0.0016** **	**0.0016** **	**0.0017** **
					(<0.001)	(0.012)	(0.019)	(0.013)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,122	9,122	9,122	9,122	9,122	9,122	9,122	9,122
Adjusted R^2	0.0215	0.1305	0.1324	0.1648	0.0120	0.1305	0.1323	0.1644

Table 25

Alternative Cut-Off Years (1985-1998): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1999 to 2014, I employ the ratings model estimated for the period 1985 to 1998. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Firm	**-0.0002**	-0.0000	0.0003*	**-0.0002**	-0.0000	0.0003	**-0.0002**	-0.0001	0.0002
	(0.129)	(0.940)	(0.075)	(0.169)	(0.818)	(0.128)	(0.172)	(0.495)	(0.220)
REM1				**-0.0051** *	0.0062 **	0.0132 ***			
				(0.090)	(0.035)	(0.007)			
REM2							**-0.0090** *	0.0359 ***	0.0513 ***
							(0.077)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,416	4,734	3,682	8,416	4,734	3,682	8,416	4,734	3,682
Adjusted R^2	0.1159	0.0920	0.2265	0.1164	0.0931	0.2294	0.1166	0.1078	0.2440

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind	**-0.0002****	-0.0001	0.0003*	**-0.0002** **	-0.0002	0.0003	**-0.0002** **	-0.0002 *	0.0002
	(0.025)	(0.272)	(0.065)	(0.037)	(0.206)	(0.114)	(0.038)	(0.078)	(0.203)
REM1				**-0.0050** *	0.0064 **	0.0132 ***			
				(0.098)	(0.029)	(0.006)			
REM2							**-0.0088** *	0.0363 ***	0.0513 ***
							(0.084)	(<0.001)	(<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,416	4,734	3,682	8,416	4,734	3,682	8,416	4,734	3,682
Adjusted R^2	0.1163	0.0923	0.2265	0.1167	0.0934	0.2294	0.1169	0.1084	0.2440

Table 25 (Continued)

Alternative Cut-Off Years (1985-1998): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1999 to 2014, I employ the ratings model estimated for the period 1985 to 1998. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0021***	0.0014**	0.0007***	0.0035 ***	0.0021 ***	0.0021 ***	0.0014 **	0.0007 ***	**0.0035** ***	**0.0021** ***
	(<0.001)	(0.022)	(0.002)	(0.001)	(0.002)	(<0.001)	(0.025)	(0.001)	(0.001)	(0.002)
ABS_DA						0.0134	-0.1544 ***	0.0432 **	**-0.1334** *	**-0.0902** *
						(0.716)	(0.002)	(0.048)	(0.084)	(0.072)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416
Adjusted R^2	0.1967	0.0765	0.2991	0.1309	0.1638	0.1966	0.0788	0.3000	0.1313	0.1643

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0021***	0.0014**	0.0007***	0.0035 ***	0.0021 ***	0.0021 ***	0.0013 **	0.0007 ***	**0.0035** ***	**0.0021** ***
	(<0.001)	(0.017)	(0.001)	(0.001)	(0.001)	(<0.001)	(0.021)	(0.001)	(0.001)	(0.001)
ABS_DA						0.0153	-0.1531 ***	0.0439 **	**-0.1302** *	**-0.0883** *
						(0.677)	(0.002)	(0.044)	(0.091)	(0.078)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416
Adjusted R^2	0.1971	0.0766	0.2994	0.1312	0.1641	0.1971	0.0789	0.3003	0.1317	0.1646

Table 25 (Continued)

Alternative Cut-Off Years (1985-1998): Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. To predict ratings for the period 1999 to 2014, I employ the ratings model estimated for the period 1985 to 1998. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% level s. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0055*****	**0.0028*****	**0.0028** ***	**0.0033** ***				
	(<0.001)	(0.005)	(0.007)	(0.002)				
Lagged_Rat_Diff_Ind					**0.0046** ***	**0.0029** ***	**0.0029** **	**0.0032** ***
					(<0.001)	(0.003)	(0.004)	(0.002)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416
Adjusted R^2	0.0146	0.1136	0.1144	0.1437	0.0100	0.1141	0.1148	0.1439

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0043*****	**0.0017*****	**0.0016** **	**0.0019** ***				
	(<0.001)	(0.009)	(0.013)	(0.005)				
Lagged_Rat_Diff_Ind					**0.0035** ***	**0.0017** ***	**0.0017** ***	**0.0019** ***
					(<0.001)	(0.006)	(0.009)	(0.005)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	8,416	8,416	8,416	8,416	8,416	8,416	8,416	8,416
Adjusted R^2	0.0210	0.1442	0.1464	0.1853	0.0132	0.1445	0.1467	0.1854

Table 26

Controlling for the Effect of Global Financial Crisis of 2007-2008: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Firm	**-0.0002**** (0.029)	-0.0000 (0.862)	0.0004** (0.011)	**-0.0002** ** (0.041)	-0.0000 (0.793)	0.0004 (0.022)	**-0.0002** ** (0.039)	-0.0001 (0.509)	0.0003 ** (0.041)
REM1				**-0.0060** ** (0.039)	0.0041 (0.162)	0.0134 *** (0.002)			
REM2							**-0.0087** * (0.072)	0.0347 *** (<0.001)	0.0513 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,566	4,271	9,837	5,566	4,271	9,837	5,566	4,271
Adjusted R^2	0.1208	0.0949	0.2298	0.1216	0.0953	0.2329	0.1214	0.1090	0.2479

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind	**-0.0003**** (0.011)	-0.0001 (0.192)	0.0004** (0.024)	**-0.0002** ** (0.015)	-0.0001 (0.162)	0.0003 ** (0.039)	**-0.0003** ** (0.015)	-0.0002 * (0.072)	0.0003 * (0.062)
REM1				**-0.0060** ** (0.040)	0.0042 (0.148)	0.0136 *** (0.002)			
REM2							**-0.0087** * (0.073)	0.0349 *** (<0.001)	0.0514 *** (<0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,566	4,271	9,837	5,566	4,271	9,837	5,566	4,271
Adjusted R^2	0.1210	0.0952	0.2295	0.1218	0.0956	0.2327	0.1216	0.1095	0.2478

Table 26 (Continued)

Controlling for the Effect of Global Financial Crisis of 2007-2008: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0019***	0.0010*	0.0007***	0.0029 ***	0.0017 ***	0.0019 ***	0.0009	0.0007 ***	**0.0029** ***	**0.0017** ***
	(<0.001)	(0.088)	(0.001)	(0.003)	(0.005)	(<0.001)	(0.101)	(0.001)	(0.004)	(0.006)
ABS_DA						-0.0035	-0.1627 ***	0.0557 ***	**-0.1557** **	**-0.0880** *
						(0.924)	(<0.001)	(0.008)	(0.036)	(0.068)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	8,416
Adjusted R^2	0.1922	0.0868	0.2894	0.1358	0.1691	0.1921	0.0893	0.2909	0.1365	0.1697

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0018***	0.0006	0.0008***	0.0024 **	0.0014 **	0.0018 ***	0.0006	0.0008 ***	**0.0024** **	**0.0014** **
	(<0.001)	(0.263)	(<0.001)	(0.012)	(0.016)	(<0.001)	(0.297)	(<0.001)	(0.014)	(0.018)
ABS_DA						-0.0030	-0.1633 ***	0.0563 ***	**-0.1557** **	**-0.0879** *
						(0.935)	(<0.001)	(0.007)	(0.036)	(0.068)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.1917	0.0862	0.2903	0.1350	0.1685	0.1917	0.0888	0.2918	0.1357	0.1691

Table 26 (Continued)

Controlling for the Effect of Global Financial Crisis of 2007-2008: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. I use alternative cut-off years for measuring ratings conservatism. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% level s. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0057***** (<0.001)	**0.0023**** (0.015)	**0.0023** ** (0.017)	**0.0027** *** (0.007)				
Lagged_Rat_Diff_Ind					**0.0042** *** (<0.001)	**0.0020** ** (0.032)	**0.0020** ** (0.036)	**0.0021** ** (0.026)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0135	0.1132	0.1132	0.1476	0.0072	0.1128	0.1128	0.1468

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0045***** (<0.001)	**0.0013**** (0.026)	**0.0013** ** (0.033)	**0.0015** ** (0.017)				
Lagged_Rat_Diff_Ind					**0.0031** *** (<0.001)	**0.0012** ** (0.046)	**0.0011** * (0.057)	**0.0012** * (0.051)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0195	0.1429	0.1438	0.1886	0.0094	0.1427	0.1436	0.1880

Table 27

Controlling for the Controlling for Additional Variables: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *ABS_DA*, *Positive_DA*, and *Negative_DA* as each dependent variable. To mitigate the possibility of omitted variable problems, I re-estimate the regression equation (8) after controlling for operating cycle (*Cycle*), cash flow operations (*CFO*), sales growth (*Sales_Growth*), and a litigation indicator (*LIT*) as well as existing control variables employed in equation. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Firm	**-0.0003**** (0.014)	-0.0002 (0.188)	0.0005*** (0.005)	**-0.0003** ** (0.018)	-0.0001 (0.191)	0.0004 *** (0.007)	**-0.0003** ** (0.017)	-0.0002 (0.169)	0.0004 *** (0.009)
REM1				**-0.0054** * (0.079)	-0.0008 (0.775)	0.0079 ** (0.050)			
REM2							**-0.0096** * (0.062)	0.0065 (0.166)	0.0229 *** (0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1260	0.2615	0.3097	0.1265	0.2614	0.3106	0.1266	0.2618	0.3129

	Dependent variables:								
Explanatory variables	***ABS_DA* (1)**	***Positive_DA* (2)**	***Negative_DA* (3)**	***ABS_DA* (4)**	***Positive_DA* (5)**	***Negative_DA* (6)**	***ABS_DA* (7)**	***Positive_DA* (8)**	***Negative_DA* (9)**
Lagged_Rat_Diff_Ind	**-0.0003***** (0.004)	-0.0003*** (0.008)	0.0004** (0.019)	**-0.0003** *** (0.005)	-0.0003 *** (0.008)	0.0003 ** (0.025)	**-0.0003** *** (0.004)	-0.0003 *** (0.006)	0.0003 ** (0.028)
REM1				**-0.0054** * (0.078)	-0.0007 (0.800)	0.0080 ** (0.045)			
REM2							**-0.0097** * (0.061)	0.0066 (0.155)	0.0232 *** (0.001)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	5,548	4,289	9,837	5,548	4,289	9,837	5,548	4,289
Adjusted R^2	0.1262	0.2625	0.3092	0.1268	0.2624	0.3102	0.1269	0.2628	0.3124

Table 27 (Continued)

Controlling for the Controlling for Additional Variables: Testing H1 (CHAPTER 8)

This table reports the results of pooled OLS regression with *REM_PROD*, *REM_DISX*, *REM_CFO*, *REM1* and *REM2* as each dependent variable. To mitigate the possibility of omitted variable problems, I re-estimate the regression equation (8) after controlling for operating cycle (*Cycle*), cash flow operations (*CFO*), sales growth (*Sales_Growth*), and a litigation indicator (*LIT*) as well as existing control variables employed in equation. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Firm	0.0014***	0.0008	0.0003***	0.0022 ***	0.0012 **	0.0014 ***	0.0008	0.0003 ***	**0.0022** **	**0.0012** ***
	(0.002)	(0.145)	(0.002)	(0.018)	(0.030)	(0.002)	(0.163)	(0.001)	(0.020)	(0.033)
ABS_DA						-0.0141	-0.1300 ***	0.0254 ***	**-0.1336** *	**-0.0843** *
						(0.701)	(0.005)	(0.005)	(0.074)	(0.056)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.2515	0.1198	0.7499	0.1759	0.2870	0.2515	0.1213	0.7502	0.1764	0.2875

	Dependent variables:									
Explanatory variables	***REM_PROD* (1)**	***REM_DISX* (2)**	***REM_CFO* (3)**	***REM1* (4)**	***REM2* (5)**	***REM_PROD* (6)**	***REM_DISX* (7)**	***REM_CFO* (8)**	***REM1* (9)**	***REM2* (10)**
Lagged_Rat_Diff_Ind	0.0012***	0.0004	0.0003***	0.0017 *	0.0008	0.0012 ***	0.0004	0.0003 ***	**0.0016** *	**0.0008**
	(0.007)	(0.423)	(0.001)	(0.072)	(0.124)	(0.007)	(0.466)	(0.001)	(0.079)	(0.135)
ABS_DA						-0.0141	-0.1309 ***	0.0256 ***	**-0.1344** *	**-0.0849** *
						(0.703)	(0.004)	(0.005)	(0.073)	(0.055)
Control variables and Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837	9,837
Adjusted R^2	0.2510	0.1193	0.7500	0.1751	0.2864	0.2509	0.1209	0.7503	0.1756	0.2869

Table 27 (Continued)

Controlling for the Controlling for Additional Variables: Testing H1 (CHAPTER 8)

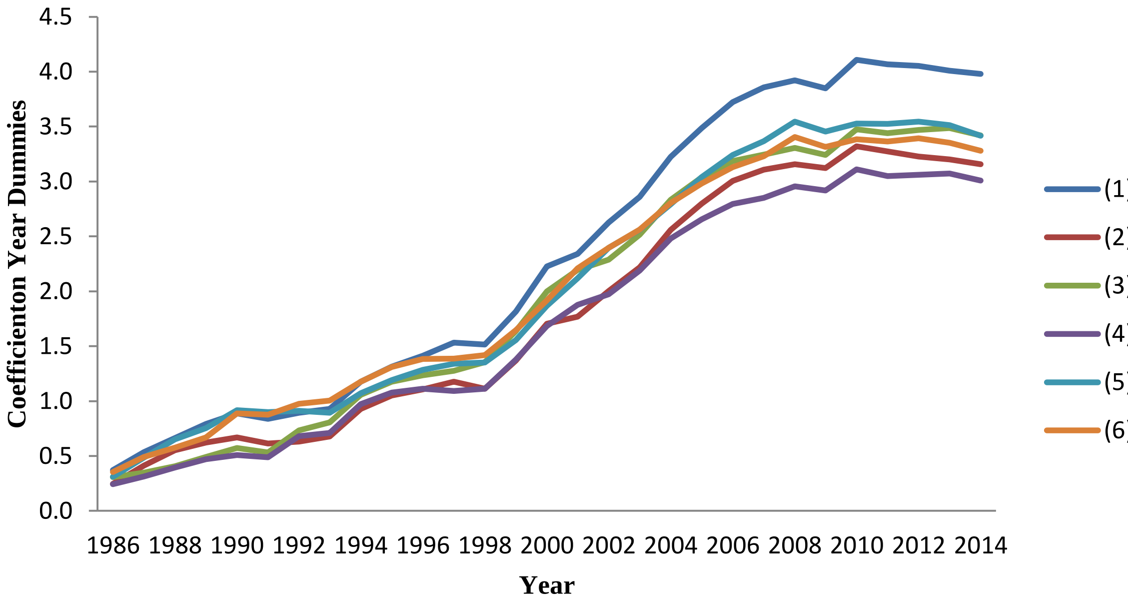
This table reports the results of pooled OLS regression with *TEM1* and *TEM2* as each dependent variable. To mitigate the possibility of omitted variable problems, I re-estimate the regression equation (8) after controlling for operating cycle (*Cycle*), cash flow operations (*CFO*), sales growth (*Sales_Growth*), and a litigation indicator (*LIT*) as well as existing control variables employed in equation. I use robust standard errors clustered at the firm level. All continuous variables are winsorized at the 1% and 99% levels. The p-values are in parentheses. ***, **, and * denote the statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed test).

	Dependent variable: ***TEM1***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0057*****	**0.0022****	**0.0022** **	**0.0020** **				
	(<0.001)	(0.019)	(0.022)	(0.038)				
Lagged_Rat_Diff_Ind					**0.0042** ***	**0.0017** *	**0.0017** *	**0.0014**
					(<0.001)	(0.058)	(0.067)	(0.141)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0135	0.1339	0.1335	0.1849	0.0072	0.1333	0.1329	0.1842

	Dependent variable: ***TEM2***							
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Lagged_Rat_Diff_Firm	**0.0045*****	**0.0013****	**0.0012** **	**0.0009** *				
	(<0.001)	(0.024)	(0.032)	(0.098)				
Lagged_Rat_Diff_Ind					**0.0031** ***	**0.0009** *	**0.0008**	**0.0005**
					(<0.001)	(0.096)	(0.129)	(0.327)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	No	No	No	Yes	No	No	No	Yes
Number of observations	9,856	9,837	9,837	9,837	9,856	9,837	9,837	9,837
Adjusted R^2	0.0195	0.2187	0.2193	0.2944	0.0094	0.2181	0.2187	0.2940

Figure 1 Plot of Coefficient on Year Dummies in Ratings Models (CHAPTER 4)

This figure presents the plot of coefficients on year dummies in columns (1)-(6). This figure graphically shows the increasing trend in the coefficients on year dummies, which implies the more tightening of rating standards over my sample period.



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